United States Department of Agriculture

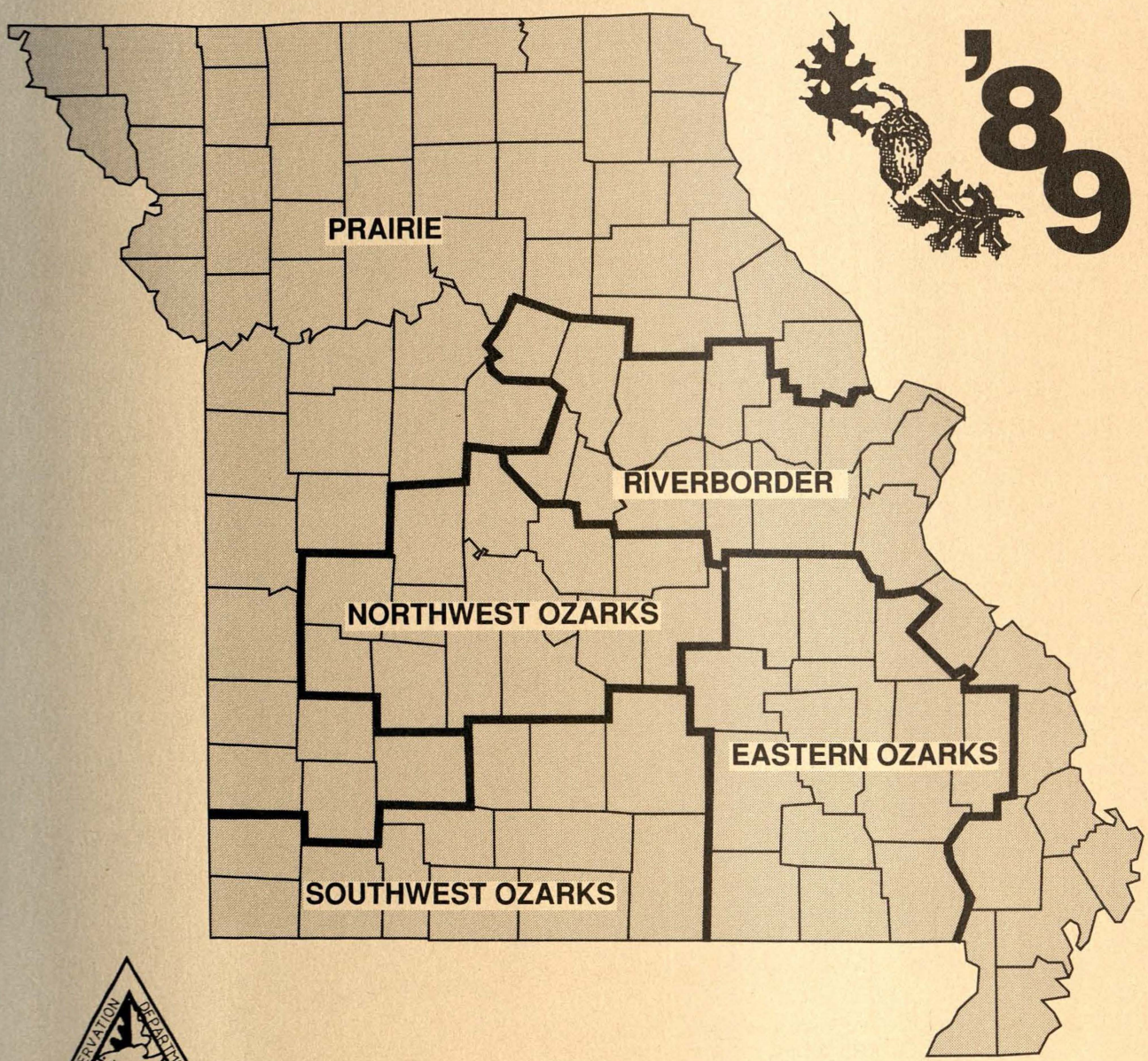
Forest Service

North Central Forest Experiment Station

Resource Bulletin NC-119

Timber Resource of Missouri

Jerold T. Hahn



North Central Forest Experiment Station
Forest Service—U.S. Department of Agriculture
1992 Folwell Avenue
St. Paul, Minnesota 55108
Manuscript approved for publication September 11, 1991
1991

This report includes the most commonly used Forest Inventory and Analysis statistics. However, additional forest resource data can be provided to interested users. Persons requesting additional information that can be provided from the raw inventory data are expected to pay the retrieval costs. These costs range from less than $100 for a relatively simple request to $2,000 for a complex retrieval involving the services of a Forest Inventory and Analysis computer programmer. Requests will be filled so as to minimize the impact on the Forest Inventory and Analysis Work Unit.

Requests for unpublished information may be directed to:

Project Leader
Forest Inventory and Analysis
North Central Forest Experiment Station
1992 Folwell Avenue
St. Paul, Minnesota 55108
Phone: (612) 649-5140

Area served: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin

Requests for unpublished information from the Missouri inventory may also be directed to:

Missouri Department of Conservation
Forest Resource Data Center
P.O. Box 180
Jefferson City, Missouri 65102
Phone: (314) 751-4115

FOREWORD

Forest Inventory and Analysis (FIA) is a continuing endeavor as mandated by the Renewable Forest and Rangeland Resources Planning Act of 1974. Prior inventories were mandated by the McSweeney-McNary Forest Research Act of 1928. The objective of FIA is to periodically inventory the Nation's forest land to determine its extent, condition, and volume of timber, growth, and depletions. Up-to-date resource information is essential to frame intelligent forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories and publishing summary reports for individual States. The North Central Forest Experiment Station is responsible for forest resource evaluation in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

Fieldwork for the Missouri Statewide forest inventory was begun in January 1987 and completed in June 1989. Reports on the three previous inventories of Missouri's timber resource are dated 1947, 1959, and 1972.

More accurate survey information was obtained during the 1989 survey than otherwise would have been feasible because of intensified field sampling. Such sampling was made possible by additional funding provided by the Missouri Department of Conservation. The Department also surveyed primary wood-using plants in the State. Data from this survey were used to help estimate the quantity of timber products harvested in the State. Missouri Department of Conservation personnel have also assisted in training field personnel, analyzing information obtained from the survey, and preparing this report.

Aerial photos used in the Missouri Forest Inventory were furnished by the USDA Agricultural Stabilization and Conservation Service and the Missouri Department of Natural Resources, Geology and Land Survey.

CONTENTS

Highlights 1
General 1
Forest Area 1
Number of Trees 3
Volume 3
Timber Growth, Removals, and Mortality 4
Biomass 4
Appendix 5
Accuracy of Survey 5
Survey Procedures 6
Comparing Missouri's Fourth Inventory with the Third Inventory 11
Log Grade 11
Metric Equivalents of Units Used in this Report 14
Tree Species Groups in Missouri 15
Definition of Terms 16
Table Titles 22
Core Tables 22
Area 22
Number of Trees 22
Volume 23
Butt Log Grade 23
Growth, Removals, and Mortality 23
Supplemental Tables 23
Area 23
Volume 24
Growth 25
Removals 25
Mortality 25
Current Removals and Utilization 25
Biomass 25

Timber Resource of Missouri, Statistical Report, 1989

Jerold T. Hahn and John S. Spencer, Jr.

HIGHLIGHTS

NOTE: *Data from new forest inventories are often compared with data from earlier inventories to determine trends in forest resources. However, for the comparisons to be valid, the procedures used in the two inventories must be similar. As a result of our ongoing efforts to improve the efficiency and reliability of the inventory, several changes in procedures and definitions have occurred since 1972. Because some of these changes make it inappropriate to directly compare the 1989 data with those published for 1972, data from the 1972 inventory have been reprocessed using the 1989 procedures. Please refer to the Appendix section labeled "Comparing Missouri's fourth inventory with the third inventory" for more details.*

General

Missouri is divided into five Survey Units (fig. 1), and statistical reports have been published for each Unit. The State's topography varies from the alternating ridges and hollows of the Ozark Mountain Units to the rich bottomlands of the Riverborder Unit and the rolling plains of the Prairie Unit.

Jerold T. Hahn, Mensurationist, received a B.S. degree in 1962 and an M.S. in 1963 from the University of Illinois. He joined the North Central Forest Experiment Station in August 1965 and he has been Principal Mensurationist with the Station's Forest Inventory and Analysis Unit since 1978.

John S. Spencer, Jr., Resource Analyst, received a B.S. degree in forestry from Virginia Polytechnic Institute in 1952 and an M.F. from the University of Montana in 1953. He joined the Forest Service in 1953 and has been with the North Central Forest Experiment Station since 1968.

Forest Area

The area of forest land in the State rose from 12.7 million acres in 1972 to 14.0 million in 1989, a 10-percent gain. Forest land represented 31 percent of the total land and water area in 1989. Timberland area increased from 12.4 to 13.4 million acres during the same period, an increase of 8 percent. This reverses the trend of the period 1959-1972 when a decline from 13.8 to 12.4 million acres was reported. Four of the five Survey Units gained timberland area, but the Riverborder Unit showed a slight decline. The greatest gain occurred in the Prairie Unit with an increase of 560,000 acres. Much of the increase in timberland is due to an improvement in tree stocking and a decline in livestock grazing on land classed as wooded pasture in 1972, resulting in its reclassification as timberland in 1989.

The Eastern Ozarks Unit contains the largest area of timberland—4.1 million acres or 67 percent of the unit's land area; followed by the Prairie Unit—2.5 million acres (13 percent); Southwest Ozarks Unit—2.5 million acres (45 percent); Northwest Ozarks Unit—2.2 million acres (43 percent); and Riverborder Unit—2.1 million acres (26 percent).

Seven counties, all in the Eastern Ozarks Unit (Carter, Iron, Madison, Reynolds, Shannon, Washington, and Wayne), are more than 75 percent forested (fig. 1).

Reserved forest land, land that has been withdrawn from timber utilization (see Definition of Terms in Appendix), accounted for 316,900 acres in 1989, compared with 256,100 acres in 1972. The increase came from additions to State parks and natural areas, county- and municipal-owned parks and recreation areas, U.S. Army Corps of Engineers recreation areas, or newly designated National Forest wilderness areas. The largest

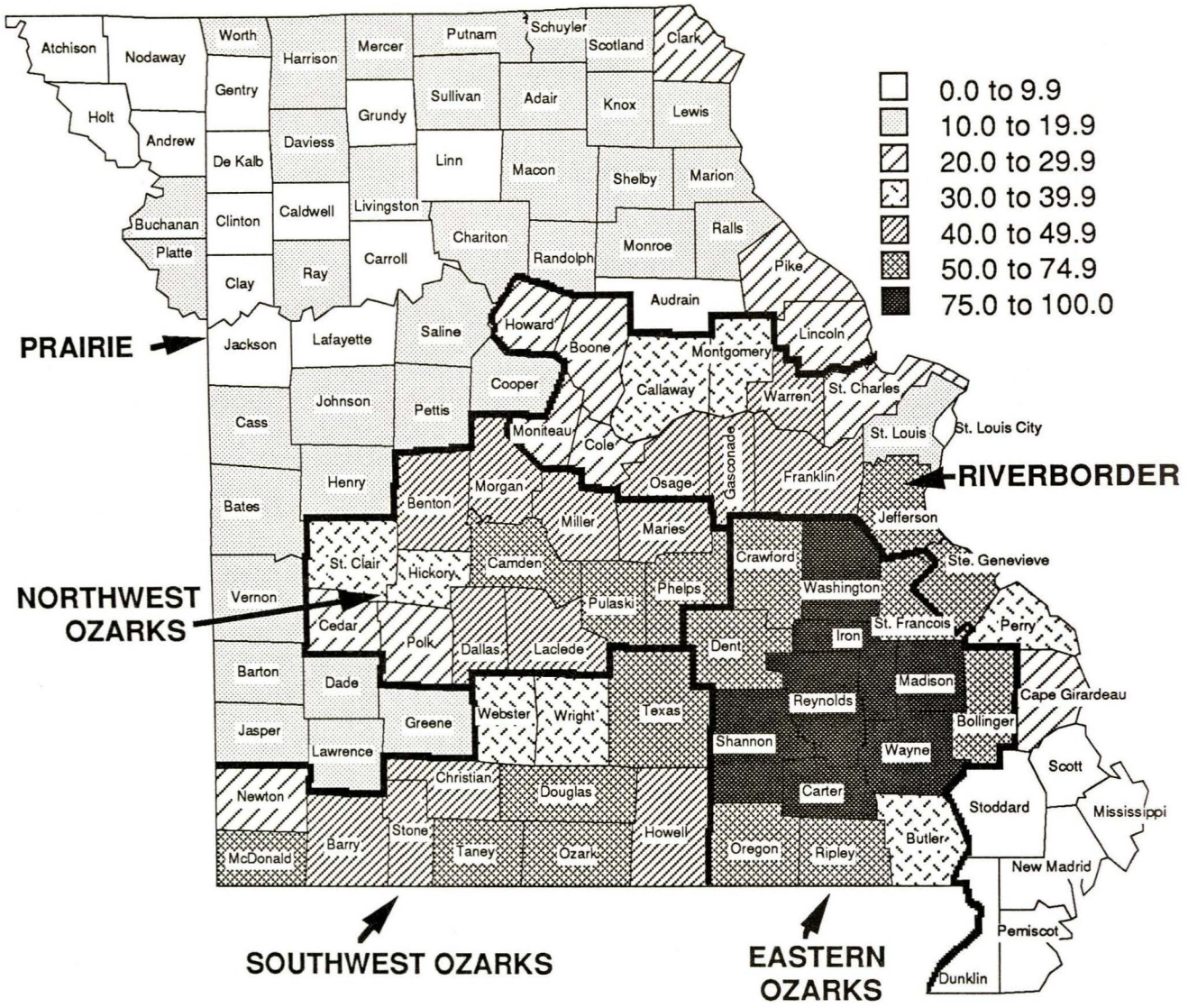


Figure 1.—*Forest land as a percent of land area by county, Missouri, 1989.*

areas of reserved forest land are in the Eastern Ozarks Unit (159,100 acres), the Riverborder Unit (60,900 acres), and the Southwest Ozarks Unit (52,800 acres).

Farmers and miscellaneous private owners hold 11,136,500 acres or 83 percent of the timberland in the State (fig. 2).

The black-scarlet oak forest type was the predominant type in 1989 (fig. 3) with 4,912,200 acres (37 percent of the timberland area), even though its area declined slightly from 4,937,400 acres in 1972. The second largest type in 1989 was white oak, which increased to 2,952,100 acres from 2,512,100 acres in 1972. The post-blackjack oak type ranked third in 1989 with

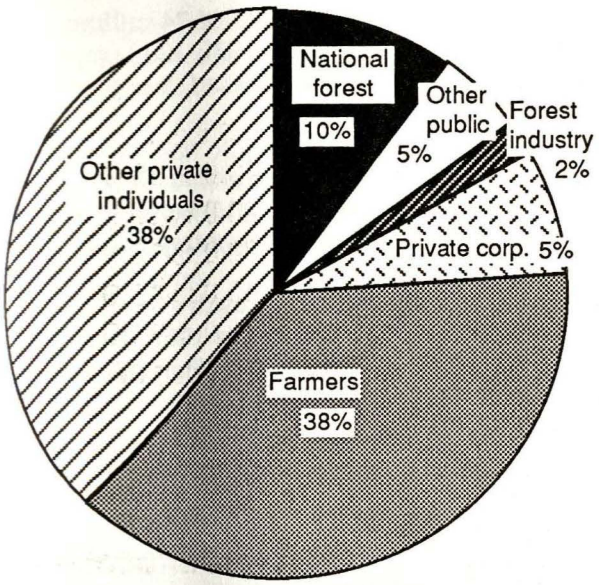


Figure 2.—*Area of timberland by owner, Missouri, 1989.*

2,430,500 acres, and the maple-beech type ranked fourth with 995,700 acres. The maple-beech type increased faster between surveys than any of the more extensive types (72 percent).

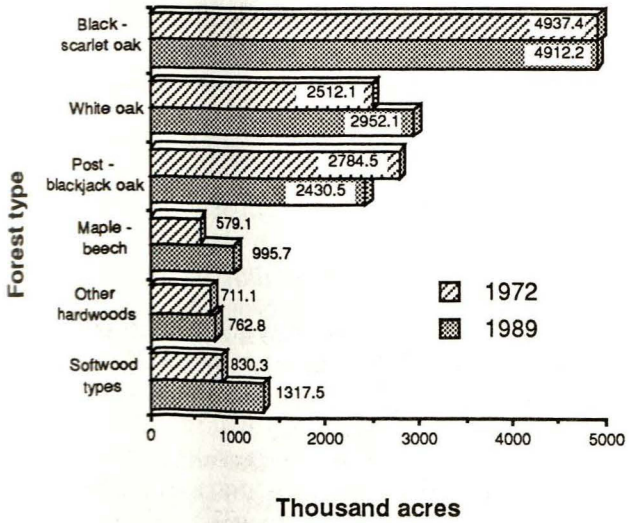


Figure 3.—*Area of timberland by forest type, Missouri, 1989.*

Sawtimber stands increased from 39 percent of the timberland area in 1972, to 49 percent in 1989, as stands grew out of the poletimber size class into sawtimber size. The proportion of poletimber stands declined from 39 percent of timberland area in 1972 to 29 percent of timberland in 1989. The proportion of sapling-seedling stands remained virtually unchanged—nearly 22 percent of the area.

The stocking level of timberland with growing-stock trees improved between inventories. In 1972 only 36 percent of timberland was more than 60 percent stocked with these trees, but in 1989 the proportion had risen to 67 percent.

Number of Trees

The number of growing-stock trees 5.0 inches in diameter and larger increased from 874 to 1,128 billion between 1972 and 1989, a 29-percent gain.

Volume

Volume of growing stock on timberland increased from 6.5 to 9.0 billion cubic feet between 1972 and 1989, a gain of 38 percent. Volume per acre averaged 526 cubic feet in 1972, rising to 672 cubic feet in 1989.

Sawtimber volume on timberland grew from 17.0 to 25.9 billion board feet[1] between inventories, an increase of 52 percent. Average sawtimber volume per acre increased from 1,377 to 1,936 board feet during the period.

Hardwoods made up 90 percent of the growing-stock volume in 1989 (8.1 billion cubic feet) and 89 percent of the sawtimber volume (23.1 billion board feet).

The oaks accounted for two-thirds of the growing-stock volume in 1989 with 5.9 billion cubic feet (fig. 4). This is an increase from the 4.5 billion cubic feet in 1972, but a slight decline from the 69 percent of total volume represented by oaks in that year. Although oak volume is increasing, the volume of other species is increasing faster.

[1]*International 1/4-inch rule.*

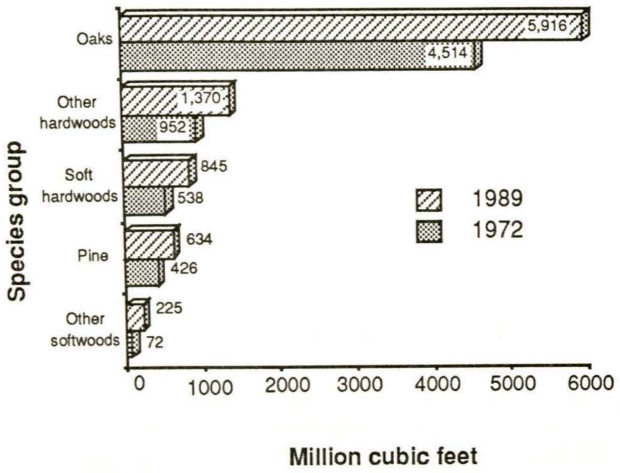


Figure 4.—*Growing-stock and sawtimber volumes by species group, Missouri, 1989.*

In 1989, 59 percent (5.3 billion cubic feet) of the growing-stock volume was in trees 5 to 13 inches d.b.h., 35 percent (3.2 billion cubic feet) was in trees 13 to 21 inches d.b.h., and the remaining 6 percent (0.5 billion cubic feet) was in trees more than 21 inches in d.b.h.

Timber Growth, Removals, and Mortality

During 1971-1988, average net annual growth on growing stock amounted to 267 million cubic feet. This translates into 20 cubic feet of growth per acre and a growth rate of 3.0 percent of the 1989 inventory.

Average net annual growth on sawtimber in the period 1972-1988 was 1.0 billion board feet, or 75 board feet per acre. The sawtimber growth rate was 3.9 percent of the 1989 inventory.

Average annual removals of growing stock in the period 1972-1988 were 117 million cubic feet, or 8.7 cubic feet per acre. Growing-stock removals amounted to 44 percent of growth and 1.3 percent of inventory volume.

Sawtimber removals in the period 1972-1988 amounted to 409 million board feet, an average of 30.6 board feet per acre. Removals were 41 percent of sawtimber growth and 1.6 percent of the 1989 sawtimber inventory volume.

Mortality of growing stock totaled 74 million cubic feet during the period 1972-1988, representing 5.5 cubic feet per acre or 0.8 percent of the 1989 inventory volume.

Mortality of sawtimber in the period 1972-1988 was 190 million board feet—14.2 board feet per acre or 0.7 percent of 1989 inventory volume.

During 1972-1988 red oak growth averaged 89 million cubic feet (3.1 percent of 1989 inventory); red oak removals averaged 52 million cubic feet or 58 percent of growth (fig. 5).

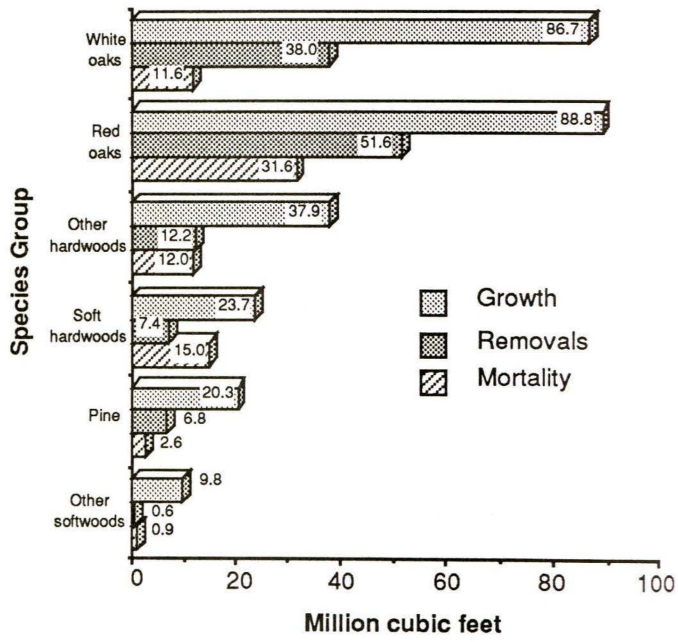


Figure 5.—*Growing-stock growth, removals, and mortality by major species group, Missouri, 1988.*

Biomass

Live tree biomass (trees at least 1 inch in diameter) amounted to 850 million green tons in 1989, an average of 64 tons per acre.

Thirteen percent of the biomass (113 million green tons) was in trees less than 5 inches

d.b.h., 51 percent (435 million green tons) was in growing-stock trees, and 36 percent (303 million green tons) was in nongrowing-stock trees (fig. 6).

The elm-ash-soft maple type had the highest shrub biomass (3,375 pounds per acre) followed by the maple-beech type (2,251 pounds per acre) and the eastern redcedar-hardwood type (2,063 pounds per acre).

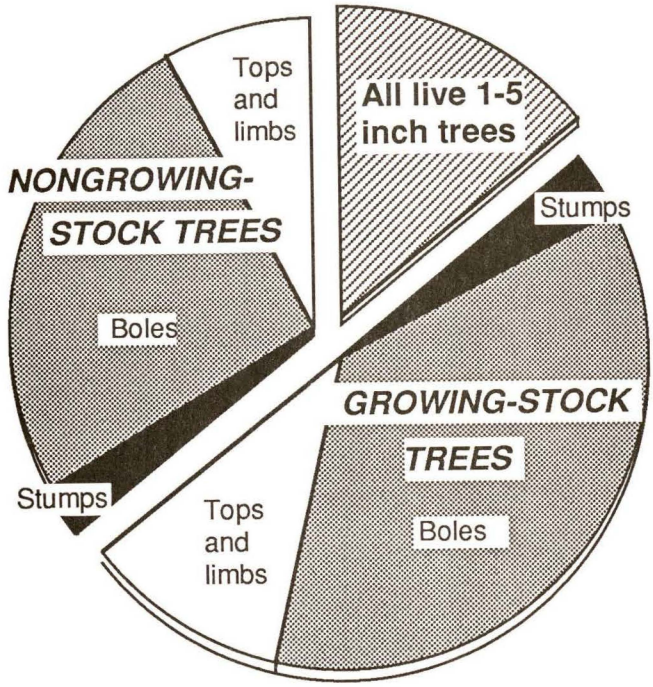


Figure 6.—*All live tree biomass by component, Missouri, 1989.*

APPENDIX

ACCURACY OF SURVEY

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State and Survey Unit levels. Consequently, the reported figures are estimates only. A measure of reliability of these figures is given by sampling errors. These sampling errors mean that the chances are two out of three that if a 100-percent inventory had been taken, using the same methods, the results would have been within the limits indicated.

For example, the estimated growing-stock volume in the State in 1989, 8,988.6 million cubic feet, has a sampling error of ±1.04 percent (±93.5 million cubic feet). The growing-stock volume from a 100-percent inventory would be expected to fall between 8,895.1 and 9,082.1 million cubic feet (8,988.6 ±93.5), there being a one in three chance that this is not the case.

The following tabulation shows the sampling errors for the 1989 Missouri Forest Inventory:

Item	State totals	Sampling error
Growning stock	(Million cubic feet)	(Percent)
Volume (1989)	8,988.6	1.04
Average net annual growth (1972-1988)	267.3	1.57
Average annual removals (1972-1988)	116.6	6.34
Sawtimber	(Million board feet)	
Volume (1989)	25,883.6	1.48
Average net annual growth (1972-1988)	1,000.4	2.00
Average annual removals (1972-1988)	408.7	7.86
Timberland area (1989)	(Thousand acres) 13,370.8	0.53

As survey data are broken down into sections smaller than State totals, the sampling error increases. For example, the sampling error for timberland area in a particular county is higher than that for total timberland area in the State. The tabulation on the previous page shows the sampling errors for State totals. To use this information for data smaller than State totals, use the following formula to compute error estimates:

$$E = \frac{(SE)\ \sqrt{\text{(State total area or volume)}}}{\sqrt{\text{(Volume or area smaller than State total)}}}$$

where:

E = sampling error in percent
SE = Unit total error for area or volume

For example, to compute the error on the area of timberland in the black-scarlet oak type in the State, proceed as follows:

The area of black-scarlet oak type in the State from table 8 = 4,912,200 acres.

The area of all timberland in the State from table 8 = 13,370,800 acres.

The error for State total timberland area from the above tabulation = 0.53 percent.

Using the previous formula:

$$\text{Error} = \frac{(0.53)\ \sqrt{13{,}370{,}800}}{\sqrt{4{,}912{,}200}}$$

$$= \pm 0.87 \text{ percent}$$

The error for black-scarlet type in the State = 0.87 percent.

SURVEY PROCEDURES

The 1989 Missouri survey used a growth model enhanced two-phase sample design. This sampling scheme and associated estimators are similar to sampling with partial replacement (SPR) in that a set of randomly located plots is available for remeasurement and a random set of new plots is established and measured. A significant feature of this design is stratification for disturbance on the old sample and use of a growth model to improve regression estimates made on undisturbed forest plots from the previous inventory (fig. 7). The growth model used in the Missouri survey design was the Central States Stand and Tree Evaluation and Modeling System (STEMS)[2].

[2]*Shifley, S.F. 1987. A generalized system of models forecasting Central States tree growth. Res. Pap. NC-279. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 10 p.*

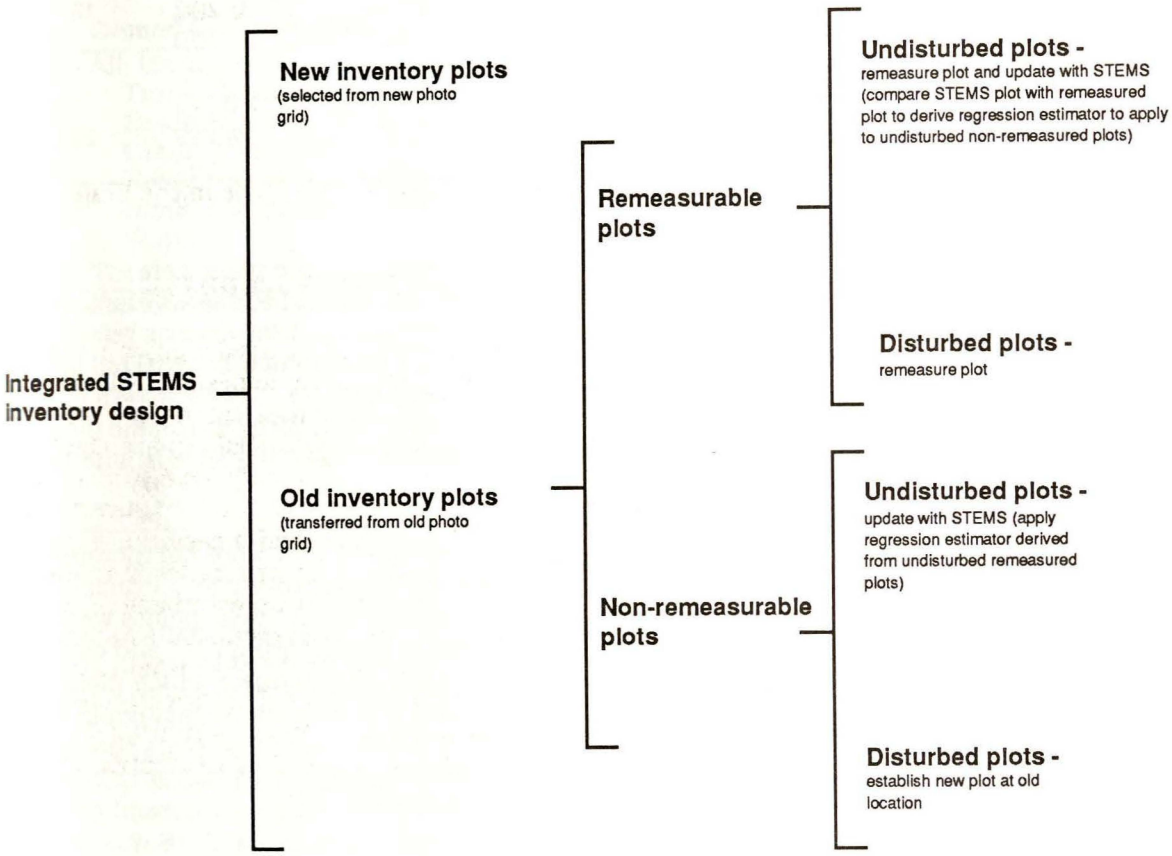

Integrated STEMS inventory design
New inventory plots
(selected from new photo grid)
Old inventory plots
(transferred from old photo grid)
Remeasurable plots
Non-remeasurable plots
Undisturbed plots -
remeasure plot and update with STEMS (compare STEMS plot with remeasured plot to derive regression estimator to apply to undisturbed non-remeasured plots)
Disturbed plots -
remeasure plot
Undisturbed plots -
update with STEMS (apply regression estimator derived from undisturbed remeasured plots)
Disturbed plots -
establish new plot at old location

Figure 7.—*Overview of the Missouri sample design.*

The major steps in the Missouri Forest Inventory were as follows:

1. Aerial photography (Phase 1)

In this phase two sets of random points were located on current aerial photography. The first is a set of new photo plots and the second is a set of relocated ground plot locations from the previous inventory. Photos were 1:20,000 and 1:40,000, scale, black and white panchromatic prints provided by the Agricultural Stabilization and Conservation Service (ASCS) and the Missouri Department of Natural Resources, Geology and Land Survey.

The locations of the plots used in the 1972 Missouri inventory were transferred to these new photographs. The photographs were then assembled into township mosaics, and a systematic grid of 121 one-acre photo plots, each plot representing approximately 190.4 acres, was overlaid on each township mosaic. Each of these plots, both the new systematic grid points and the old sample plots, was examined by aerial photogrammetrists and classified by land use. If trees were present, forest type and stand size-density class were also recorded. Then all the old sample locations and a sample of the new photo plots were sent to the field for verification of the photo classification and for more detailed measurement. A total of 235,887 photo plots (10,536 old and 225,351 new) were examined stereoscopically as shown in the following tabulation:

Photo land class	State total	Eastern Ozarks	Southwest Ozarks	Northwest Ozarks	Prairie	Riverborder
Timberland	75,709	22,095	14,458	12,546	14,482	12,128
Reserved timberland	1,501	766	263	123	70	279
Questionable	1,897	513	720	380	232	52
Nonforest with trees	8,584	1,073	1,577	1,535	3,370	1,029
Nonforest without trees	145,771	7,791	12,193	12,301	84,229	29,257
Water	2,425	132	314	626	687	666
All classes	235,887	32,370	29,525	27,511	103,070	43,411

2. Plot measurements (Phase 2)

On plots sent to the field classified as timberland, wooded pasture, or windbreak (at least 120 feet wide), a ground plot was established, remeasured, or modelled. Ground plots consist of a 10-point cluster covering approximately 1 acre. At each point, trees 5.0 inches or more in d.b.h. were sampled on a 37.5 Basal Area Factor (BAF) prism on a variable-radius plot, and trees less than 5.0 inches d.b.h. were sampled on a 1/300-acre fixed-radius plot.

From the new photo plots, a random sample of ground plots was established and measures of land use, volume, mortality, and cutting were recorded. These locations were monumented for future remeasurement. The procedures for the old inventory photo plots (old plot locations) were somewhat different. Old plots were classed as remeasurable (monumented) or nonremeasurable (not monumented and thus difficult to relocate in the field). Within both of these groups, old plots can additionally be identified as undisturbed or disturbed. Ground plots corresponding to remeasurable old inventory photo plots that were classified as undisturbed forest land were remeasured to obtain current land use, volume, growth, and removals information.

All undisturbed remeasurable forest plots were projected to the current time using STEMS, which yields projected estimates of current volume and growth. The comparison of the projected and observed values for these plots provided local calibration data to adjust the projected values of the undisturbed nonremeasurable plots. The adjustment procedure is described by Smith[3] in a separate publication.

[3]*Smith, W. Brad. 1985. Adjusting the STEMS regional growth models to improve local predictions. Res. Note NC-297. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 5 p.*

All disturbed remeasurable plots were remeasured on the ground to assess changes since the last inventory. Disturbance refers to any change on a plot that can be detected on aerial photos and that the STEMS growth processor cannot predict, such as catastrophic mortality, cutting, growth of seedling stands, and land use change.

Temporary forest plots that were not monumented during the 1972 inventory play a crucial role in the new survey design. These points were carefully examined, comparing past and current aerial photography to determine which plots were undisturbed and had conditions that could be simulated by STEMS. For those plots that could be updated, past and current photography was examined to determine that only normal growth and mortality had occurred. STEMS was then used to "grow" the old plot and tree data to develop the current estimate. Thus, these plots were treated as ground plots, even though they were never visited. The plot record for each updated plot was sent to the field for verification of current ownership information. For points the field crew was unable to relocate, which were classified as disturbed, a new ground plot was established as close to the old location as possible. This allows information about land use trends to be recorded even though it may not be possible to locate the old plot exactly.

The estimation procedure for computing statistics from this sampling design was more complicated than the simple two-phase estimation procedure used in the past. In fact, this procedure yielded two independent samples, one coming from the new photo points and the other coming from the old photo points that are remeasured or updated. The following tabulation summarizes the distribution of ground plots for the new inventory design:

Ground land use class	Old plots remeasured	Old plots updated	Old plots replaced [1]	New plots	Total plots
All Units					
Timberland	1,496	629	1,887	1,660	4,672
Reserved forest land	24	3	8	257	298
Other forest land	36	1	28	47	112
Nonforest with trees	157	84	156	305	702
Nonforest without trees	2,105	4,645	205	4,307	11,269
Water	26	61	15	121	222
Total	3,846	5,425	2,291	6,682	17,269
Eastern Ozarks Unit					
Timberland	480	262	306	361	1,409
Reserved forest land	12	2	4	140	158
Other forest land	6	1	4	2	13
Nonforest with trees	22	16	24	30	92
Nonforest without trees	160	293	29	145	627
Water	5	2	3	9	19
Total	685	576	370	687	2,318
Southwest Ozarks Unit					
Timberland	269	125	259	263	916
Reserved forest land	8	1	1	43	53
Other forest land	12	0	8	5	25
Nonforest with trees	30	21	54	51	156
Nonforest without trees	190	445	52	245	932
Water	6	8	0	12	26
Total	515	600	374	619	2,108
Northwest Ozarks Unit					
Timberland	205	61	104	360	730
Reserved forest land	0	0	2	25	27
Other forest land	11	0	13	20	44
Nonforest with trees	22	16	19	49	106
Nonforest without trees	175	238	18	399	830
Water	4	6	1	34	45
Total	417	321	157	887	1,782
Prairie Unit					
Timberland	213	131	148	451	943
Reserved forest land	0	0	1	20	21
Other forest land	1	0	0	6	7
Nonforest with trees	66	20	49	136	271
Nonforest without trees	1,536	1,827	53	3,017	6,433
Water	12	10	3	50	75
Total	1,828	1,988	254	3,680	7,750
Riverborder Unit					
Timberland	329	50	70	226	675
Reserved forest land	4	0	0	29	33
Other forest land	6	0	3	14	23
Nonforest with trees	17	11	10	39	77
Nonforest without trees	44	1,842	53	508	2,447
Water	1	37	0	19	57
Total	401	1,940	136	835	3,312

[1]Unmonumented temporary plots and monumented permanent plots that could not be relocated.

3. Area estimates

Area estimates were made using two-phase estimation methods. In this type of estimation, a preliminary estimate of area by land use is made from the aerial photographs (Phase 1) and corrected by the plot measurements (Phase 2). A complete description of this estimation method is presented by Loetsch and Haller 1964[4].

4. Volume estimates

Estimates of volume per acre were made from the trees measured or modelled on the 10-point plots. Estimates of volume per acre were multiplied by the area estimates to obtain estimates of total volume. Net cubic foot volumes are based on equations developed by Hahn and Hansen 1989[5] for use in the Central States. Biomass estimates are based on equations developed by Smith 1985[6].

The Forest Service reports all board foot volume in International 1/4-inch rule. In Missouri, the Doyle log rule is commonly used. Doyle log rule conversion factors were derived from full tree measurements taken throughout the Central States (Illinois, Indiana, Iowa, and Missouri) and an equation developed by Wiant and Castenaeda 1977[7]. The factors (multipliers) for converting board foot International volumes to the Doyle rule are shown in the following tabulation:

D.b.h. (inches)	Doyle rule conversion factor	
	Softwoods	Hardwoods
9.0-10.9	0.3455	—
11.0-12.9	0.4780	0.4172
13.0-14.9	0.5992	0.5118
15.0-16.9	0.6908	0.5882
17.0-18.9	0.7685	0.6569
19.0-20.9	0.8573	0.7180
21.0-22.9	0.8645	0.7829
23.0-24.9	0.9276	0.8324
25.0-26.9	0.9493	0.8736
27.0-28.9	0.9710	0.9473
29.0+	1.1065	1.1349

5. Growth and mortality estimates

On remeasured plots, estimates of growth and mortality per acre come from the remeasured diameters of trees and from observation of trees that died between inventories. Growth is reported for 1988, the last year before the inventory, and is based on an assumption of constant basal area growth over the remeasurement period. Mortality is reported for 1988 also, and is based on an assumption of constant volume mortality over the remeasurement period. On new plots, where trees were not remeasured, estimates of growth and mortality were obtained by using STEMS to project the growth and mortality of trees for 1 year. Growth and mortality estimates for old undisturbed plots that were updated were derived in the same manner as remeasured plots. The STEMS growth model was adjusted by Survey Unit to meet local conditions. As with volume, total growth and mortality estimates were obtained by multiplying the per acre estimates by area estimates.

6. Average annual removals estimates

Average annual growing-stock and sawtimber removals (1972 to 1988) were estimated only from the remeasured plots. These estimates are obtained from trees measured in the last survey and cut or otherwise removed from the timberland base. Because remeasurement plots make up about one-half of the total ground plots, average annual removals estimates have greater sampling errors than volume and growth estimates.

---

[4]*Loetsch, F.; Haller, K.E. 1964. Forest inventory, volume 1, Statistics of forest inventory and information from aerial photographs. Vienna: BLV Verlagsgesellschaft Munch Basle. 436 p.*

[5]*Hahn, Jerold T.; Hansen, Mark H. 1991. Tree volume equations for the Central States. Northern Journal of Applied Forestry. In press.*

[6]*Smith, W. Brad. 1985. Factors and equations to estimate forest biomass in the North Central Regions. Res. Pap. NC-268. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 6 p.*

[7]*Wiant, Harry V., Jr.; Castenaeda, Froylan. 1977. Mesavage and Girard's volume tables formulated. BLM4. Denver, CO: U.S. Department of Interior, Bureau of Land Management, Denver Service Center: 1-4.*

COMPARING MISSOURI'S FOURTH INVENTORY WITH THE THIRD INVENTORY

The following paragraphs highlight some of the procedural changes since the last inventory to assist the reader in analyzing data from this report:

New volume equations were developed for the Central States, and these equations were used to compute the 1989 volumes and to recompute the 1972 volume for growth calculations. Although the adjustment differs by Survey Unit, the recomputed 1972 growing-stock and board foot volumes will generally be greater than those shown in the 1972 report.

Mortality figures published in the 1972 inventory report were based on field estimates from a limited number of remeasurement plots. Information gathered on a larger number of remeasurement plots during the current inventory was used to adjust the 1972 mortality figures. This adjustment will also affect the estimate of net growth for the 1972 inventory.

Past surveys used only growing-stock trees to determine stand-size class. Current survey procedures require that stand-size class be determined on the basis of all live trees. Therefore, direct comparisons of current inventory data to old inventory data by stand-size class may be misleading.

The basic building block for estimating forest area and timber volume has been changed from the Survey Unit to the county. In the past, the statistics were developed at the Unit level and prorated back to the county on the basis of photo-interpretation points. Direct development of county-level data helps users interested in more precise local data, but can make the outcome of comparisons with past estimates uncertain.

LOG GRADE

In Missouri the butt log of every sawtimber sample tree was graded for quality on approximately one-third of the sample plots. The volume yield by log grade for species in this sample was used to distribute the volume of trees in the ungraded sample into log-grade classes by species group.

Logs were graded on the basis of external characteristics as indicators of quality. Hardwood species were graded according to "A guide to hardwood log grading" (1973)[8]. The best 12-foot section of the lowest 16-foot hardwood log, or the best 12-foot upper section if the butt log did not meet minimum log-grade standards, was graded as follows:

---

[8]*Rast, Everette D.; Sonderman, David L.; Gammon, Glenn L. 1973. A guide to hardwood log grading. Gen. Tech. Rep. NE-1. Upper Darby, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 31 p.*

Forest Service standard grades for hardwood factory saw logs

Grading factors		Specifications							
		Log grade 1			Log grade 2				Log grade 3
Position in tree		Butts only	Butts & uppers		Butts & uppers				Butts & uppers
Scaling diameter, inches		13-15[1]	16-19	20+	11+[2]		12+		8+
Length without trim, feet			10+		10+	8-9	10-11	12+	8+
Required clear cuttings[3] of each of three best faces[4]	Min. length, feet	7	5	3	3	3	3	3	2
	Max. number	2	2	2	2	2	2	3	No limit
	Min. proportion of log length required in clear cutting	5/6	5/6	5/6	2/3	3/4	2/3	2/3	1/2
Maximum sweep & crook allowance	For logs with less than one-fourth of end in sound defects		15 percent				30 percent		50 percent
	For logs with more than one-fourth of end in sound defects		10 percent				20 percent		35 percent
Maximum scaling deduction			40 percent[5]				50 percent[6]		50 percent

[1] Ash and basswood butts can be 12 inches if they otherwise meet requirements for small #1's.
[2] Ten-inch logs of all species can be #2 if they otherwise meet requirements for small #1's.
[3] A clear cutting is a portion of a face, extending the width of the face, that is free of defects.
[4] A face is one-fourth of the surface of the log as divided lengthwise.
[5] Otherwise #1 logs with 41- to 60-percent deductions can be #2.
[6] Otherwise #2 logs with 51- to 60-percent deductions can be #3.

Forest Service standard specifications for hardwood construction logs (tie and timber logs)[1]

Position in tree	Butts and uppers
Min. diameter, small end	8 inches +
Min. length without trim	8 feet
Clear cuttings	No requirements
Sweep allowance	One-fourth of the diameter at the small end for each 8 feet of length.
Sound surface defects:	
Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.
Whorled knots	Any number, if the sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.
Holes	Any number provided none has a diameter over one-third of the log diameter at point of occurrence, and none extends more than 3 inches into included timber[2].
Unsound surface defects :	Same requirements as for sound defects if they extend into included timber. No limit if they do not.
End defects:	
Sound	No requirements.
Unsound	None allowed; log must be sound internally, but will admit one shake not to exceed one-fourth the scaling diameter and will admit one longitudinal split not extending more than 5 inches into included timber.

[1]These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only nonfactory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, it may be necessary to subdivide the class into grades.

[2]Included timber is always square, and dimension is judged from small end.

Log grades for southern pine logs

Grade 1: logs with three or four clear faces[1] and 16 inches minimum d.i.b.

Grade 2: logs with one or two clear faces and 12 inches minimum d.i.b.

Grade 3: logs with no clear faces and 6 inch minimum d.i.b.

After the tentative log grade is established from above, the log will be degraded one grade for each of the following, except that no log can be degraded below grade 3. Net scale after deduction for defect must be at least 50 percent of the gross contents of the log.

1. *Sweep.* Degrade any tentative 1 or 2 log one grade if sweep amounts to 3 or more inches and equals or exceeds one-third of the diameter inside bark at small end.

2. *Heart rot.* Degrade any tentative 1 or 2 log one grade if conk, massed hyphae, or other evidence of advanced heart rot is found anywhere in it.

[1]A face is one-fourth of the circumference in width extending full length of the log. Clear faces are those free of: knots measuring more than 1 inch in diameter, overgrown knots of any size, and holes more than one inch in diameter. Faces may be rotated to obtain the maximum number of clear ones.

Log grades for eastern redcedar (Missouri special use)

Position in tree	Butts and uppers
D.B.H.	6 inches +
Min. diameter(ob), small end	5 inches +
Length without trim	7 feet
Clear cuttings	No requirements
Sweep allowance	Reasonably straight
Sound surface defects permitted:	
Single knot	Any number less than one-half of the log diameter at point of occurrence.
Whorled knots	Any number provided the sum of the diameter of knots 2 inches or larger in a 1-foot section does not exceed the diameter at that point.
Unsound defects permitted:	Any number, provided defect is not greater than one-half of the volume at any one point of occurrence.

METRIC EQUIVALENTS OF UNITS USED IN THIS REPORT

1 acre = 4,046.86 square meters or 0.405 hectare.
1,000 acres = 405 hectares.
1 cubic foot = 0.0283 cubic meter.
1 foot = 30.48 centimeters or 0.3048 meter.
1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.
1 pound = 0.454 kilograms.
1 ton = 0.907 metric tons.

TREE SPECIES GROUPS IN MISSOURI[9]

SOFTWOODS

Shortleaf pine ..... *Pinus echinata*
Virginia pine ..... *Pinus virginiana*
Baldcypress ..... *Taxodium distichum*
Eastern redcedar ..... *Juniperus virginiana*
Other softwoods
Scotch pine ..... *Pinus sylvestris*

HARDWOODS

Select white oak[10]
White oak ..... *Quercus alba*
Swamp white oak ..... *Quercus bicolor*
Bur oak ..... *Quercus macrocarpa*
Swamp chestnut oak ..... *Quercus michauxii*
Chinkapin oak ..... *Quercus muehlenbergii*
Other white oak[10]
Overcup oak ..... *Quercus lyrata*
Chestnut oak ..... *Quercus prinus*
Post oak ..... *Quercus stellata*
Select red oak[10]
Cherrybark oak ..... *Quercus falcata* var. *pagodifolia*
Northern red oak ..... *Quercus rubra*
Shumard oak ..... *Quercus shumardii* var. *shumardii*
Other red oak[10]
Scarlet oak ..... *Quercus coccinea*
Northern pin oak ..... *Quercus ellipsoidalis*
Southern red oak ..... *Quercus falcata*
Shingle oak ..... *Quercus imbricaria*
Black oak ..... *Quercus velutina*
Blackjack oak ..... *Quercus marilandica*
Pin oak ..... *Quercus palustris*
Willow oak ..... *Quercus phellos*
Select hickory[10]
Pecan ..... *Carya illinoensis*
Shellbark hickory ..... *Carya lacinosa*
Shagbark hickory ..... *Carya ovata*
Mockernut hickory ..... *Carya tomentosa*
Other hickory[10]
Bitternut hickory ..... *Carya cordiformis*
Pignut hickory ..... *Carya glabra*
Black hickory ..... *Carya texana*
River birch[10] ..... *Betula nigra*
Hard maple[10]
Sugar maple ..... *Acer saccharum*
Soft maple[11]
Red maple ..... *Acer rubrum*
Silver maple ..... *Acer saccharinum*
Ash[10]
Blue ash ..... *Fraxinus quadrangulata*
White ash ..... *Fraxinus americana*
Green ash ..... *Fraxinus pennsylvanica*
Cottonwood[11] ..... *Populus deltoides*
Basswood[11] ..... *Tilia americana*
Beech[10] ..... *Fagus grandifolia*
Black walnut[10] ..... *Juglans nigra*
Black cherry[11] ..... *Prunus serotina*
Butternut[11] ..... *Juglans cinerea*
Elm
Winged elm[11] ..... *Ulmus alata*
American elm[11] ..... *Ulmus americana*
Slippery elm[11] ..... *Ulmus rubra*
Rock elm[10] ..... *Ulmus thomasii*
Hackberry[11] ..... *Celtis occidentalis*
Sycamore[11] ..... *Platanus occidentalis*
Yellow-poplar[11] ..... *Liriodendron tulipifera*
Black willow[11] ..... *Salix nigra*
Sweetgum[11] ..... *Liquidambar styraciflua*
Tupelo[11]
Black tupelo ..... *Nyssa sylvatica* var. *sylvatica*
Swamp tupelo ..... *Nyssa sylvatica* var. *biflora*
Persimmon[10] ..... *Diospyros virginiana*
Sassafras[11] ..... *Sassafras albidum*
Other hardwoods
Ohio buckeye[11] ..... *Aesculus glabra*
Boxelder[11] ..... *Acer negundo*
Kentucky coffeetree[10] ..... *Gymnocladus dioicus*
Black locust[10] ..... *Robinia pseudoacacia*
White mulberry[11] ..... *Morus alba*
Red mulberry[11] ..... *Morus rubra*
Honeylocust[10] ..... *Gleditsia triacanthos*
Northern catalpa[10] ..... *Catalpa speciosa*

---

[9] *The common and scientific names are based on: Little, Elbert L. 1979. Checklist of native and naturalized trees of the United States. Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture, Forest Service. 375 p.*

[10] *This species or species group is considered a hard hardwood, with an average specific gravity greater than 0.50.*

[11] *This species or species group is considered a soft hardwood, with an average specific gravity of 0.50 or less.*

Noncommercial species

Osage-orange	*Maclura pomifera*
Eastern hophornbeam	*Ostrya virginiana*
Apple	*Malus* spp.
American hornbeam	*Carpinus caroliniana*
Wild plum	*Prunus* spp.
Eastern redbud	*Cercis canadensis*
Pawpaw	*Asimina triloba*
Hawthorn	*Crataegus* spp.

DEFINITION OF TERMS

Average annual removals from growing stock.—The average net growing-stock volume in growing-stock trees removed annually for forest products (including roundwood products and logging residues) and for other uses (see Other removals). Average annual removals of growing stock are reported for a period of several years (1972 to 1988 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in Appendix).

Average annual removals from sawtimber.—The average net board foot sawtimber volume of live sawtimber trees removed annually for forest products (including roundwood products and other uses [see Other removals]). Average annual removals of sawtimber are reported for a period of several years (1972 to 1988 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in Appendix).

Basal area.—The area in square feet of the cross section at breast height of a single tree. When the basal area of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

Biomass.—The above-ground volume of all live trees (including bark and foliage) reported in green tons. Biomass is made up of four components:

Bole.—Biomass of a tree from 1 foot above the ground to a 4-inch top outside bark.

Tops and limbs.—Total biomass of a tree from a 1-foot stump minus the bole.

1- to 5-inch trees.—Total above-ground biomass of a tree from 1 to 5 inches in diameter at breast height.

Stump.—Biomass of a tree 5-inches d.b.h. and larger from the ground to a height of 1 foot.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam, osage-orange, and redbud.)

Commercial forest land.—(See Timberland).

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Cropland.—Land under cultivation within the past 24 months; including cropland harvested, crop failures, cultivated summer fallow, idle cropland used only for pasture, orchards, and land in soil improvement crops, but excluding land cultivated in developing improved pasture.

Cull.—Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect.

Current annual removals from growing stock.—The current net growing-stock volume in growing-stock trees removed annually for forest products (including roundwood products and logging residues) and for other uses (see Other removals). Current annual removals of growing stock are reported for a single year (1987 in this report) and are based on a survey of primary wood processing mills to determine removals for products and information from remeasurement plots (see Survey Procedures in Appendix) to determine removals due to land use change.

Current annual removals from sawtimber.—The current net board foot sawtimber volume of live sawtimber trees removed annually for forest products (including roundwood products and other uses [see Other removals]). Current annual removals of sawtimber are reported for a single year (1987 in this report) and are based on a survey of primary wood processing mills to determine removals for products and information from remeasurement plots (see Survey Procedures in Appendix) to determine removals due to land use change.

Diameter classes.—A classification of trees based on diameter outside bark, measured at breast height (4 feet above the ground). (Note: d.b.h. is the common abbreviation for diameter

at breast height. Two-inch diameter classes are commonly used in Forest Inventory and Analysis, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.)

Diameter at breast height (d.b.h.).—The outside bark diameter at 4.5 feet (1.37m) above the forest floor on the uphill side of the tree. For the purposes of determining breast height, the forest floor includes the duff layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

Farm.—Any place from which $1,000 or more of agricultural products were produced and sold during the year.

Farmer-owned land.—Land owned by farm operators. (Note: Excludes land leased by farm operators from nonfarm owners, such as railroad companies and States.)

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. (Also see definitions forTree, Land, Timberland, Reserved forest land, Stocking, and Water.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest type.—A classification of forest land based on the species forming a plurality of live tree stocking. Major forest types in the State are:

Shortleaf pine.—Forests in which shortleaf pine comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Eastern redcedar.—Forests in which eastern redcedar comprises a plurality of the stocking. (Common associates include oak and hickory.)

Eastern redcedar-hardwood.—Forests in which hardwoods (usually upland oaks), comprise a plurality of the stocking but where eastern redcedar comprises 25 to 50 percent of the stocking. (Common associates include gum, and hickory.)

Shortleaf pine-oak.—Forests in which hardwoods (usually white, scarlet, chestnut, northern red or black oaks), singly or in combination, comprise a plurality of the stocking but where shortleaf pine comprises 25 to 50 percent of the stocking.

Post-blackjack oak.—Forests in which post or blackjack oak, singly or in combination, comprise a plurality of the stocking, and less than 25 percent of the stocking is in pines or eastern redcedar.

Black-scarlet oak.—Forests in which black oak or scarlet oak, singly or in combination, comprise a plurality of the stocking, and less than 25 percent of the stocking is in pines or eastern redcedar. (Common associates include elm, maple, and black walnut.)

White oak.—Forests in which white oak species singly or in combination, comprise a plurality of the stocking, and less than 25 percent of the stocking is in pines or eastern redcedar.

Oak-gum-cypress.—Bottomland forests in which bottomland oaks such as pin, swamp white, and shingle oaks along with tupelo, blackgum, sweetgum, or cypress, singly or in combination, comprise a plurality of the stocking. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-soft maple.—Forests in which lowland elm, ash, soft maple, and cottonwood, singly or in combination, comprise a plurality of the stocking. (Common associates include boxelder, willow, sycamore, and beech.)

Cottonwood.—Forests in which cottonwood comprises at least 50 percent of the stocking. (Associates include willow, elm, soft maple, and ash.)

Maple-beech.—Forests in which hard maple or beech, singly or in combination, comprise a plurality of the stocking. (Common associates include soft maple, elm, and basswood.)

Growing-stock trees.—Live trees of commercial species that meet specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from 1 foot above the ground to a minimum 4.0 inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs. Cubic feet can be converted to standard cords by dividing by 79. One standard cord is 128 cubic feet of stacked wood, including bark and air.

Hard hardwoods.—Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and ash.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous. (See Soft hardwoods and Hard hardwoods.)

Idle farmland.—Includes former cropland, orchards, improved pastures, and farm sites not tended within the past 2 years and presently less than 16.7 percent stocked with trees.

Improved pasture.—Land currently improved for grazing by cultivating, seeding, irrigating, or clearing of trees or brush and less than 16.7 percent stocked with live trees.

Industrial wood.— All roundwood products, except fuelwood.

Land.—A. *Bureau of the Census.* Dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

B. *Forest Inventory and Analysis.* The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Log grades.—A classification of logs based on external characteristics as indicators of quality or value. (See Appendix for specific grading factors used.)

Logging residues.—The unused growing stock portions of trees cut or killed by logging.

Maintained road.—Any road, hard-topped or other surfaces, that is plowed or graded at least once a year. Includes rights-of-way that are cut or treated to limit herbaceous growth.

Marsh.—Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation and that is intermittently covered with water.

Merchantable.—Refers to a pulpwood or saw log section that meets pulpwood or saw log specifications, respectively.

Miscellaneous Federal land.—Federal land other than National Forest and land administered by the Bureau of Land Management.

Miscellaneous private land.—Privately owned land other than forest-industry and farmer-owned land.

Mortality.—The volume of sound wood in growing-stock and sawtimber trees that die annually.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.

Net annual growth of growing stock.—The annual change in volume of sound wood in live sawtimber and poletimber trees and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes.

Net annual growth of sawtimber.—The annual change in the volume of live sawtimber trees and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes.

Net volume.—Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial species.—Tree species of typically small size, poor form, or inferior

quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre in area to qualify as nonforest land.)

a. *Nonforest land without trees.*—Nonforest land with no live trees present.

b. *Nonforest land with trees.*—Nonforest land with one or more trees per acre at least 5 inches d.b.h.

Nonstocked land.—Timberland less than 16.7 percent stocked with growing-stock trees.

Other forest land.—Forest land not capable of producing 20 cubic feet per acre per year of industrial wood crops under natural conditions and not associated with urban or rural development. These sites often contain tree species that are not currently utilized for industrial wood production or trees of poor form, small size, or inferior quality that are unfit for industrial products. Unproductivity may be the result of adverse site conditions such as sterile soil, dry climate, poor drainage, high elevation, and rockiness. This land is not withdrawn from timber utilization.

Other removals.—Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the timberland classification by land use change. Examples are removals from cultural operations such as timber stand improvement work, land clearing, and changes in land use.

Ownership.—Property owned by one owner, regardless of the number of parcels in a specified area.

Ownership size class.—The amount of timberland owned by one owner, regardless of the number of parcels.

Owner tenure.—The length of time a property has been held by the owner.

Pasture.—Land presently used for grazing or under cultivation to develop grazing.

Pastured timberland.—Timberland for which the primary use is wood production, but is presently used for grazing.

Physiographic class.—A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

Xeric sites.—Very dry soils where excessive drainage seriously limits both growth and species occurrence. Example: cedar barrens.

Xeromesic sites.—Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

Mesic sites.—Deep, well-drained soils. Growth and species occurrence are limited only by climate.

Hydromesic sites.—Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: better drained bottomland hardwood sites.

Hydric sites.—Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms and cypress swamps.

Plant byproducts.—Plant residues used for products such as mulch, pulp chips, and fuelwood.

Plant residues.—Wood and bark materials generated at manufacturing plants during production of other products.

Poletimber stand.—(See Stand-size class.)

Poletimber tree.—A growing-stock tree of commercial species at least 5.0 inches d.b.h. but smaller than sawtimber size.

Potential productivity class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Reserved forest land.—Forest land withdrawn from timber utilization through statute, administrative regulation, designation, or exclusive

use for Christmas tree production, as indicated by annual shearing.

Rotten trees.—Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume in a tree is rotten.

Rough trees.—(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Roundwood products.—Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: Includes saw logs, veneer logs and bolts; cooperage logs and bolts; pulpwood; fuelwood; piling; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

Salvable dead trees.—Standing or down dead trees considered merchantable by regional standards.

Saplings.—Live trees 1.0 to 5.0 inches d.b.h.

Sapling-seedling stands.—(See Stand-size class.)

Saw log.—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7.0 inches (9.0 inches for hardwoods) or other combinations of size and defect specified by regional standards.

Saw log portion.—That part of the bole of sawtimber trees between the stump and the saw log top.

Saw log top.—The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber stands.—(See Stand-size class.)

Sawtimber trees.—Growing-stock trees of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches d.b.h.

Sawtimber volume.—Net volume of the saw log portion of live sawtimber in board feet, International 1/4-inch rule (unless specified otherwise) from stump to a minimum 7.0 inches top diameter outside bark (d.o.b.) for softwoods and a minimum 9.0 inches top d.o.b. for hardwoods.

Seedlings.—Live trees less than 1.0 inch d.b.h. that are expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

Short-log (rough tree).—Sawtimber-size trees of commercial species that contain at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

Site index.—An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

Soft hardwoods.—Hardwood species with an average specific gravity less than 0.50 such as gum, yellow-poplar, cottonwood, red maple, basswood, and willow.

Softwoods.—Coniferous trees, usually evergreen, having needles or scale-like leaves.

Stand.—A group of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-age class.—Age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

Stand-size class.—A classification of stocked (see Stocking) forest land based on the size class of live trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

a. Sawtimber stands.—Stands with half or more of live stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

b. Poletimber stands.—Stands with half or more live stocking in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

c. Sapling-seedling stands.—Stands with more than half of the live stocking in saplings and/or seedlings.

State land.—Land owned by States or leased to them for 50 years or more.

Stocking.—The degree of occupancy of land by trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard.

A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5.0 inches d.b.h. and larger. In a stand of trees less than 5.0 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5.0 inches d.b.h.

Stands are grouped into the following stocking classes:

Overstocked stands.—Stands in which stocking of trees is 133.0 percent or more.

Fully stocked stands.—Stands in which stocking of trees is from 100.0 to 132.9 percent.

Medium stocked stands.—Stands in which stocking of trees is from 60.0 to 99.9 percent.

Poorly stocked stands.—Stands in which stocking of trees is from 16.7 to 59.9 percent.

Nonstocked areas.—Commercial forest land on which stocking of trees is less than 16.7 percent.

Timberland.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying as timberland are capable of producing more than 20 cubic feet per acre per year of annual growth when managed. Currently inaccessible and inoperable areas are included except when the areas involved are small and unlikely to become suitable for producing industrial wood in the foreseeable future.) Formerly called commercial forest land. (Also see definition of Pastured timberland.)

Timber removals from growing stock.—The net volume of growing stock in growing-stock trees removed for forest products (including roundwood products and logging residues) and for other uses (see Other removals). Timber removals from growing stock are reported for a single year and are based on information obtained from a survey of primary wood-using mills (see Survey Procedures in Appendix).

Timber removals from sawtimber.—The net board-foot volume of live sawtimber trees removed for forest products (including roundwood products and logging residues) and for other uses (see Other removals). Timber removals from sawtimber are reported for a single year (1988 in this report) and are based on information obtained from a survey of primary wood-using mills (see Survey Procedures in Appendix).

Timber products output.—All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

Tree.—Woody plant having a well-developed stem and usually more than 12 feet tall at maturity.

Tree biomass.—The total aboveground weight (including the bark) of all trees from 1 to 5 inches in d.b.h., and the total aboveground weight (including the bark) from a 1-foot stump for trees more than 5 inches in diameter.

Tree size class.—A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

Upper stem portion.—That part of the bole of sawtimber trees above the saw log top to a minimum top diameter of 4.0 inches outside bark or to the point where the central stem breaks into limbs.

Urban and other areas.—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; schoolyards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

Urban forest land.—Land that would otherwise meet the criteria for timberland, but is in an urban-suburban area surrounded by commercial, industrial, or residential development.

Water.—(a) *Bureau of the Census.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) *Noncensus.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

Windbreaks.—A group of trees whose primary use is to protect buildings currently in use.

Wooded pasture.—Improved pasture with more than 16.7 percent stocking in live trees but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

Wooded strip.—An acre or more of natural continuous forest land that would otherwise meet survey standards for timberland except that it is less than 120 feet wide.

TABLE TITLES

Core Tables[12]

Area

Table 1.—Area of land by county and major land-use class, Missouri, 1989

Table 2.—Area of timberland by county and ownership class, Missouri, 1989

Table 3.—Area of timberland by county and forest type, Missouri, 1989

Table 4.—Area of timberland by county and stand-size class, Missouri, 1989

Table 5.—Area of timberland by county and potential productivity class, Missouri, 1989

Table 6.—Area of timberland by county and stocking class of growing-stock trees, Missouri, 1989

Table 7.—Area of timberland by ownership class, stocking class of growing-stock trees, and Forest Survey Unit, Missouri, 1989

Table 8.—Area of timberland by forest type, ownership class, and Forest Survey Unit, Missouri, 1989

Table 9.—Area of timberland by forest type, stand-size class, and Forest Survey Unit, Missouri, 1989

Number of Trees

Table 10.—Number of all live trees on timberland by species group and diameter class, Missouri, 1989

Table 11.—Number of growing-stock trees on timberland by species group and diameter class, Missouri, 1989

---

[12]*Tables common to all Forest Inventory and Analysis statistical reports in the eastern United States.*

Volume

Table 12.—Net volume of timber on timberland by class of timber and species group, Missouri, 1989

Table 13.—Net volume of growing stock on timberland by species group and diameter class, Missouri, 1989

Table 14.—Net volume of growing stock in the saw-log portion of sawtimber trees on timberland by species group and diameter class, Missouri, 1989

Table 15.—Net volume of sawtimber on timberland by species group and diameter class, Missouri, 1989

Table 16.—Net volume of growing stock and sawtimber on timberland by county and major species group, Missouri, 1989

Table 17.—Net volume of live trees and growing stock on timberland by ownership class and species group, Missouri, 1989

Butt Log Grade

Table 18.—Net volume of sawtimber on timberland by species group and butt log grade, Missouri, 1989

Growth, Removals, and Mortality

Table 19.—Average net annual growth of growing stock and sawtimber on timberland by county and species group, Missouri, 1972-1988

Table 20.—Average annual removals of growing stock and sawtimber on timberland by county and species group, Missouri, 1972-1988

Table 21.—Average net annual growth and average annual removals of growing stock on timberland by species group and Forest Survey Unit, Missouri, 1972-1988

Table 22.—Average net annual growth and average annual removals of sawtimber on timberland by species group and Forest Survey Unit, Missouri, 1972-1988

Table 23.—Average net annual growth and average annual removals of growing stock on timberland by ownership class and major species group, Missouri, 1972-1988

Table 24.—Average net annual growth and average annual removals of sawtimber on timberland by ownership class and major species group, Missouri, 1972-1988

Table 25.—Average annual mortality of growing stock and sawtimber on timberland by species group, Missouri, 1972-1988

Supplemental Tables

Area

Table 26.—Area of land by land class and Forest Survey Unit, Missouri, 1972 and 1989

Table 27.—Area of timberland by county, Missouri, 1959, 1972, and 1989

Table 28.—Area of timberland by stand-size class and Forest Survey Unit, Missouri, 1959, 1972, and 1989

Table 29.—Area of land by land use class and Forest Survey Unit, Missouri, 1989

Table 30.—Area of timberland by ownership class, potential productivity class, and Forest Survey Unit, Missouri, 1989

Table 31.—Area of privately owned timberland by ownership class, owner tenure, and size of holding, Missouri, 1989

Table 32.—Area of timberland in sawtimber stands by ownership class, stand-volume class, and Forest Survey Unit, Missouri, 1989

Table 33.—Area of timberland by forest type, stand-size class, and ownership class, Missouri, 1989

Table 34.—Area of timberland by forest type, stand-size class, and potential productivity class, Missouri, 1989

Table 35.—Area of timberland by forest type, stand-age class, and Forest Survey Unit, Missouri, 1989

Table 36.—Area of timberland by forest type, site-index class, and Forest Survey Unit, Missouri, 1989

Table 37.—Area of timberland by forest type, basal-area class, and stand-size class, Missouri, 1989

Table 38.—Area of timberland by stocking class based on selected stand components and Forest Survey Unit, Missouri, 1989

Table 39.—Area of timberland in plantations by forest type, stand-age class, Missouri, 1989

Table 40.—Area of reserved forest land by ownership class and Forest Survey Unit, Missouri, 1989

Table 41.—Area of reserved forest land by forest type and Forest Survey Unit, Missouri, 1989

Volume

Table 42.—Net volume of growing stock on timberland by species group and Forest Survey Unit, Missouri, 1972 and 1989

Table 43.—Net volume of sawtimber on timberland by species group and Forest Survey Unit, Missouri, 1972 and 1989

Table 44.—Net volume of all live trees on timberland by species group and diameter class, Missouri, 1989

Table 45.—Net volume of tree species on timberland by major tree class and individual species, Missouri, 1989

Table 46.—Net volume of noncommercial tree species on timberland by individual species, Missouri, 1989

Table 47.—Net volume of growing stock on timberland by species group and forest type, Missouri, 1989

Table 48.—Net volume of sawtimber on timberland by species group and forest type, Missouri, 1989

Table 49.—Net volume of growing stock on timberland by species group and ownership class, Missouri, 1989

Table 50.—Net volume of sawtimber on timberland by species group and ownership class, Missouri, 1989

Table 51.—Net volume of growing stock on timberland by forest type, stand-age class, and Forest Survey Unit, Missouri, 1989

Table 52.—Net volume of sawtimber on timberland by forest type, stand-age class, and Forest Survey Unit, Missouri, 1989

Table 53.—Net volume of growing stock on timberland by forest type, basal-area class, and stand-size class, Missouri, 1989

Table 54.—Net volume of sawtimber on timberland by forest type, basal-area class, and stand-size class, Missouri, 1989

Table 55.—Net volume of sawtimber on timberland by species group, log grade, and diameter class, Missouri, 1989

Table 56.—Net volume of short-log trees on timberland by species group and diameter class, Missouri, 1989 (In thousand cubic feet)

Table 57.—Net volume of short-log trees on timberland by species group and diameter class, Missouri, 1989 (In thousand board feet)

Growth

Table 58.—Average net annual growth of growing stock and sawtimber on timberland by softwoods and hardwoods and Forest Survey Unit, Missouri, 1971 and 1972-1988

Table 59.—Average net annual growth of growing stock on timberland by species group and ownership class, Missouri, 1972-1988

Table 60.—Average net annual growth of sawtimber on timberland by species group and ownership class, Missouri, 1972-1988

Table 61.—Average net annual growth of growing stock on timberland by species group and forest type, Missouri, 1972-1988

Table 62.—Average net annual growth of sawtimber on timberland by species group and forest type, Missouri, 1972-1988

Removals

Table 63.—Average annual timber removals of growing stock and sawtimber on timberland by softwoods and hardwoods and Forest Survey Unit, Missouri, 1971 and 1972-1988

Mortality

Table 64.—Average annual mortality of growing stock and sawtimber on timberland by softwoods and hardwoods, Missouri, 1971 and 1972-1988

Table 65.—Average annual mortality of growing stock on timberland by species group and cause of death, Missouri, 1972-1988

Table 66.—Average annual mortality of sawtimber on timberland by species group and cause of death, Missouri, 1972-1988

Current Removals and Utilization

Table 67.—Current annual timber removals of growing stock and sawtimber on timberland by species group and item, Missouri, 1987

Table 68.—Output of timber products by product, softwoods and hardwoods, and source of material, Missouri, 1987

Table 69.—Output of roundwood products by product, softwoods and hardwoods, and source of material, Missouri, 1987

Table 70.—Timber products from roundwood by species group and product, Missouri, 1987

Table 71.—Volume of primary plant residue by use and type of residue, Missouri, 1987

Biomass

Table 72.—All live tree biomass yields on timberland by species group and forest type, Missouri, 1989

Table 73.—All live tree biomass on timberland by species group and forest type, Missouri, 1989

Table 74.—All live tree biomass on timberland by species group and tree biomass component, Missouri, 1989 (In green tons)

Table 75.—All live tree biomass on timberland by species group and tree biomass component, Missouri, 1989 (In thousand cubic feet)

Table 76.—All live shrub and tree seedling biomass yields on timberland by species group and forest type, Missouri, 1989

Table 1.--Area of land by county and major land-use class, Missouri, 1989

(In thousand acres)

Unit and County	Land area	Forest land					Nonforest land with trees	Nonforest land with trees, as a percent of land area
		All forest land	Timberland	Timberland as a percent of land area	Other forest land	Reserved forest land		
Eastern Ozarks Unit								
Bollinger	397.2	215.5	215.5	54.3	--	--	6.2	1.6
Butler	446.7	136.7	130.7	29.3	--	6.0	19.2	4.3
Carter	325.8	283.2	266.4	81.8	--	16.8	6.4	2.0
Crawford	475.9	325.4	321.9	67.6	3.5	--	25.7	5.4
Dent	483.1	308.8	302.4	62.6	2.0	4.4	24.6	5.1
Iron	353.3	291.0	275.9	78.1	6.7	8.4	19.6	5.5
Madison	318.2	249.4	239.6	75.3	3.0	6.8	2.6	0.8
Oregon	506.9	318.5	292.6	57.7	--	25.9	32.6	6.4
Reynolds	517.4	429.4	425.5	82.2	--	3.9	18.0	3.5
Ripley	404.2	269.0	269.0	66.6	--	--	20.8	5.1
St. Francois	288.7	160.9	142.3	49.3	8.2	10.4	8.4	2.9
Shannon	642.4	533.2	466.5	72.6	7.8	58.9	24.5	3.8
Washington	487.8	376.7	375.2	76.9	--	1.5	31.4	6.4
Wayne	487.9	402.6	386.5	79.2	--	16.1	2.6	0.5
Total	6,135.5	4,300.3	4,110.0	67.0	31.2	159.1	242.6	4.0
Southwest Ozarks Unit								
Barry	495.0	217.2	201.7	40.7	3.5	12.0	23.6	4.8
Christian	360.9	152.4	143.5	39.8	8.9	--	5.4	1.5
Douglas	521.0	303.5	300.3	57.6	3.2	--	35.6	6.8
Howell	593.7	277.8	277.8	46.8	--	--	62.4	10.5
McDonald	345.9	184.7	184.7	53.4	--	--	12.0	3.5
Newton	401.1	97.6	97.6	24.3	--	--	37.4	9.3
Ozark	467.6	271.3	251.0	53.7	8.1	12.2	34.8	7.4
Stone	288.6	126.3	125.1	43.3	--	1.2	32.9	11.4
Taney	389.0	274.2	230.6	59.3	29.8	13.8	16.5	4.2
Texas	755.5	426.3	412.7	54.6	--	13.6	50.2	6.6
Webster	380.0	122.9	118.4	31.2	4.5	--	43.9	11.6
Wright	436.7	159.2	154.8	35.4	4.4	--	33.8	7.7
Total	5,435.0	2,613.4	2,498.2	46.0	62.4	52.8	388.5	7.1
Northwest Ozarks Unit								
Benton	466.8	202.9	188.6	40.4	13.0	1.3	41.6	8.9
Camden	410.3	263.4	235.4	57.4	16.1	11.9	26.7	6.5
Cedar	301.1	88.8	84.0	27.9	1.9	2.9	21.7	7.2
Dallas	347.3	142.1	136.9	39.4	4.7	0.5	20.9	6.0
Hickory	242.5	97.2	83.9	34.6	12.6	0.7	21.8	9.0
Laclede	491.2	210.4	207.0	42.1	3.4	--	32.3	6.6
Maries	338.1	160.5	137.2	40.6	23.3	--	38.3	11.3
Miller	379.3	187.9	173.4	45.7	4.6	9.9	27.9	7.4
Morgan	380.1	190.1	172.9	45.5	17.2	--	22.2	5.8
Phelps	431.1	269.3	262.9	61.0	6.4	--	15.0	3.5
Polk	407.1	109.4	105.0	25.8	4.4	--	17.1	4.2
Pulaski	351.9	220.7	220.7	62.7	--	--	15.2	4.3
St. Clair	447.0	170.7	161.7	36.2	9.0	--	25.1	5.6
Total	4,993.8	2,313.4	2,169.6	43.4	116.6	27.2	325.8	6.5
Prairie Unit								
Adair	362.8	70.3	68.5	18.9	--	1.8	12.1	3.3
Andrew	278.7	17.4	17.4	6.2	--	--	29.4	10.5
Atchison	346.8	16.6	16.6	4.8	--	--	--	--
Audrain	446.3	34.3	34.3	7.7	--	--	10.1	2.3
Barton	381.7	39.2	38.7	10.1	--	0.5	8.7	2.3
Bates	543.7	60.0	60.0	11.0	--	--	21.7	4.0
Buchanan	261.9	26.7	26.7	10.2	--	--	13.6	5.2
Caldwell	275.5	20.1	20.1	7.3	--	--	12.0	4.4
Carroll	445.1	40.9	40.9	9.2	--	--	8.7	2.0
Cass	448.9	51.3	51.3	11.4	--	--	29.6	6.6
Chariton	485.1	53.1	51.1	10.5	--	2.0	9.5	2.0
Clark	324.5	70.9	70.9	21.8	--	--	8.7	2.7
Clay	258.2	23.1	22.1	8.6	--	1.0	7.8	3.0
Clinton	270.7	12.6	11.0	4.1	--	1.6	8.9	3.3
Cooper	362.6	53.2	53.2	14.7	--	--	39.3	10.8
Dade	313.9	40.2	40.2	12.8	--	--	19.1	6.1

(Table 1 continued on next page)

(Table 1 continued)

Unit and County	Land area	Forest land: All forest land	Forest land: Timberland	Forest land: Timberland as a percent of land area	Forest land: Other forest land	Forest land: Reserved forest land	Nonforest land with trees	Nonforest land with trees, as a percent of land area
Prairie Unit, continued								
Daviess	363.4	41.4	41.4	11.4	--	--	5.0	1.4
De Kalb	271.8	11.4	11.4	4.2	--	--	10.8	4.0
Gentry	315.5	30.4	30.4	9.6	--	--	11.0	3.5
Greene	433.6	78.9	78.9	18.2	--	--	22.5	5.2
Grundy	279.9	17.7	17.2	6.1	--	0.5	7.2	2.6
Harrison	464.1	47.9	47.9	10.3	--	--	15.8	3.4
Henry	466.6	87.3	87.3	18.7	--	--	21.6	4.6
Holt	292.2	27.1	27.1	9.3	--	--	5.7	2.0
Jackson	391.0	38.9	38.9	9.9	--	--	20.1	5.1
Jasper	410.4	54.9	54.9	13.4	--	--	6.4	1.6
Johnson	533.5	66.8	66.0	12.4	--	0.8	43.4	8.1
Knox	324.3	40.5	39.1	12.1	1.4	--	7.1	2.2
Lafayette	404.8	28.9	28.9	7.1	--	--	18.8	4.6
Lawrence	392.6	58.2	58.2	14.8	--	--	12.2	3.1
Lewis	325.4	63.1	63.1	19.4	--	--	8.0	2.5
Lincoln	401.6	112.2	106.2	26.4	--	6.0	1.4	0.3
Linn	396.5	36.4	32.7	8.2	2.8	0.9	5.0	1.3
Livingston	343.4	37.8	37.8	11.0	--	--	7.6	2.2
Macon	509.8	80.2	80.2	15.7	--	--	22.9	4.5
Marion	280.4	49.8	49.8	17.8	--	--	5.9	2.1
Mercer	290.7	29.6	29.6	10.2	--	--	0.9	0.3
Monroe	428.7	76.4	72.2	16.8	2.4	1.8	15.4	3.6
Nodaway	560.1	35.4	35.4	6.3	--	--	11.8	2.1
Pettis	439.2	58.6	58.6	13.3	--	--	34.2	7.8
Pike	430.9	116.6	112.2	26.0	4.4	--	10.5	2.4
Platte	269.5	45.0	45.0	16.2	--	--	13.8	5.0
Putnam	333.1	59.8	59.8	18.0	--	--	17.1	5.1
Ralls	308.2	61.7	61.7	19.9	--	--	3.8	1.2
Randolph	305.2	45.1	45.1	14.1	--	--	12.7	4.0
Ray	363.8	48.5	48.5	13.1	--	--	26.0	7.0
Saline	483.1	49.4	49.4	9.9	--	--	32.8	6.6
Schuyler	197.5	26.2	26.2	13.3	--	--	15.6	7.9
Scotland	280.6	30.3	30.3	10.8	--	--	12.4	4.4
Shelby	320.5	47.8	47.8	14.8	--	--	4.5	1.4
Sullivan	416.9	50.4	50.4	12.1	--	--	11.5	2.8
Vernon	535.7	93.4	89.1	16.6	4.3	--	16.5	3.1
Worth	170.4	18.6	18.6	10.9	--	--	5.4	3.2
Total	19,541.3	2,532.5	2,500.3	12.6	15.3	16.9	742.5	3.8
Riverborder Unit								
Boone	439.5	124.2	107.0	24.3	10.8	6.4	18.0	4.1
Callaway	539.1	192.3	181.3	33.6	11.0	--	35.4	6.6
Cape Girardeau	369.2	98.4	94.5	25.6	--	3.9	--	--
Cole	250.7	71.1	71.1	28.4	--	--	25.7	10.3
Dunklin	350.0	21.8	21.8	6.2	--	--	2.1	0.6
Franklin	590.0	257.1	248.3	42.1	3.5	5.3	35.7	6.1
Gasconade	333.3	161.3	139.9	42.0	21.4	--	18.1	5.4
Howard	297.3	60.4	60.4	20.3	--	--	15.1	5.1
Jefferson	423.1	227.9	222.5	52.6	5.4	--	32.0	7.6
Mississippi	262.3	14.4	13.7	5.2	--	0.7	--	--
Moniteau	266.7	54.6	54.6	20.5	--	--	5.8	2.2
Montgomery	345.7	103.7	98.5	28.5	5.2	--	16.8	4.9
New Madrid	421.3	18.9	18.9	4.5	--	--	--	--
Osage	387.6	162.4	141.7	36.6	20.7	--	22.3	5.8
Pemiscot	331.2	11.3	11.3	3.4	--	--	--	--
Perry	303.0	116.6	116.6	38.5	--	--	--	--
St. Charles	357.0	89.6	83.8	23.5	4.1	1.7	7.1	2.0
St. Louis	323.5	57.1	31.9	9.9	--	25.2	26.3	8.1
Ste. Genevieve	322.4	192.7	177.3	55.0	0.2	15.2	0.2	0.1
Scott	270.7	19.1	19.1	7.1	--	--	0.4	0.1
Stoddard	521.6	50.3	47.8	9.2	--	2.5	7.8	1.5
Warren	274.8	133.4	130.7	47.6	2.7	--	9.2	3.3
City of St. Louis	39.3	--	--	--	--	--	--	--
Total	8,019.3	2,238.6	2,092.7	26.1	85.0	60.9	278.0	3.5
All counties	44,124.9	13,998.2	13,370.8	30.3	310.5	316.9	1,977.4	4.5

Table 2.--Area of timberland by county and ownership class, Missouri, 1989

(In thousand acres)

Unit and County	All owners	Ownership class: National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Eastern Ozarks Unit									
Bollinger	215.5	1.6	--	--	--	--	127.6	13.5	72.8
Butler	130.7	47.4	--	3.1	--	--	15.7	7.8	56.7
Carter	266.4	90.2	--	20.6	--	13.2	13.3	9.6	119.5
Crawford	321.9	48.3	10.2	14.2	--	--	69.2	18.7	161.3
Dent	302.4	67.3	--	28.3	--	3.2	97.6	14.7	91.3
Iron	275.9	81.2	3.3	--	--	--	31.1	25.6	134.7
Madison	239.6	38.8	--	3.4	--	--	71.8	21.7	103.9
Oregon	292.6	71.0	--	--	--	8.9	89.4	45.2	78.1
Reynolds	425.5	85.5	14.9	38.9	--	62.6	70.8	23.8	129.0
Ripley	269.0	94.2	--	4.7	--	--	74.5	2.3	93.3
St. Francois	142.3	0.9	--	--	--	2.7	42.2	13.2	83.3
Shannon	466.5	83.4	2.4	59.2	--	69.6	61.3	20.4	170.2
Washington	375.2	78.1	3.5	9.9	--	10.7	133.2	51.4	88.4
Wayne	386.5	85.9	6.8	14.8	--	13.4	37.2	21.5	206.9
Total	4,110.0	873.8	41.1	197.1	--	184.3	934.9	289.4	1,589.4
Southwest Ozarks Unit									
Barry	201.7	42.3	--	2.5	--	--	107.3	6.0	43.6
Christian	143.5	41.5	--	--	--	--	57.8	2.7	41.5
Douglas	300.3	37.1	--	--	--	--	137.8	5.3	120.1
Howell	277.8	47.9	--	12.5	--	--	106.3	3.6	107.5
McDonald	184.7	--	--	3.4	--	--	54.2	9.6	117.5
Newton	97.6	--	8.3	--	--	--	47.8	10.0	31.5
Ozark	251.0	20.2	8.4	4.4	--	--	109.6	2.8	105.6
Stone	125.1	14.7	--	--	--	--	46.0	7.3	57.1
Taney	230.6	44.7	--	8.2	--	--	111.1	10.6	56.0
Texas	412.7	38.6	--	2.8	2.6	30.4	224.3	20.6	93.4
Webster	118.4	--	--	4.3	2.5	--	94.2	5.0	12.4
Wright	154.8	7.0	--	--	--	--	108.8	2.6	36.4
Total	2,498.2	294.0	16.7	38.1	5.1	30.4	1,205.2	86.1	822.6
Northwest Ozarks Unit									
Benton	188.6	--	22.6	5.4	--	--	70.6	13.0	77.0
Camden	235.4	--	--	--	--	--	77.5	15.2	142.7
Cedar	84.0	--	1.7	--	--	--	48.0	1.9	32.4
Dallas	136.9	--	--	7.7	--	--	61.7	2.5	65.0
Hickory	83.9	--	10.5	--	--	--	38.5	5.7	29.2
Laclede	207.0	27.8	--	4.6	--	--	59.2	9.2	106.2
Maries	137.2	--	2.2	3.5	--	--	46.0	10.5	75.0
Miller	173.4	--	--	--	--	--	53.0	15.9	104.5
Morgan	172.9	--	--	--	--	--	70.3	8.6	94.0
Phelps	262.9	62.5	--	2.3	--	--	109.3	5.3	83.5
Polk	105.0	--	4.4	2.9	--	--	31.5	--	66.2
Pulaski	220.7	44.8	40.2	--	2.9	--	66.8	--	66.0
St. Clair	161.7	--	20.4	--	--	--	68.2	6.1	67.0
Total	2,169.6	135.1	102.0	26.4	2.9	--	800.6	93.9	1,008.7
Prairie Unit									
Adair	68.5	--	--	--	2.7	--	18.2	2.7	44.9
Andrew	17.4	--	--	--	--	--	14.6	--	2.8
Atchison	16.6	--	--	1.8	--	--	12.1	--	2.7
Audrain	34.3	--	--	2.5	--	--	22.6	7.8	1.4
Barton	38.7	--	--	--	--	--	14.0	9.7	15.0
Bates	60.0	--	--	--	1.5	--	32.9	8.1	17.5
Buchanan	26.7	--	--	3.6	--	--	17.5	--	5.6
Caldwell	20.1	--	--	--	--	--	12.9	--	7.2
Carroll	40.9	--	--	3.6	--	--	27.8	--	9.5
Cass	51.3	--	--	2.1	--	--	13.6	12.8	22.8
Chariton	51.1	--	--	--	--	--	5.9	42.6	2.6
Clark	70.9	--	5.3	--	4.5	--	16.9	7.5	36.7
Clay	22.1	--	--	--	4.3	--	11.3	2.2	4.3
Clinton	11.0	--	--	--	--	--	8.4	--	2.6
Cooper	53.2	--	--	2.5	--	--	14.5	2.5	33.7

(Table 2 continued on next page)

(Table 2 continued)

Unit and County	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Prairie Unit, continued									
Dade	40.2	--	13.1	--	--	--	21.5	2.1	3.5
Daviess	41.4	--	--	--	--	--	34.5	--	6.9
De Kalb	11.4	--	--	1.6	--	--	9.8	--	--
Gentry	30.4	--	--	--	--	--	21.5	--	8.9
Greene	78.9	--	--	3.1	3.1	--	27.2	12.6	32.9
Grundy	17.2	--	--	--	--	--	5.8	4.6	6.8
Harrison	47.9	--	--	--	--	--	34.3	2.1	11.5
Henry	87.3	--	20.2	1.1	--	--	19.5	2.4	44.1
Holt	27.1	--	--	--	--	--	13.0	--	14.1
Jackson	38.9	--	6.0	1.3	6.0	--	4.6	7.3	13.7
Jasper	54.9	--	--	--	--	--	38.2	7.8	8.9
Johnson	66.0	--	--	1.7	--	--	17.8	3.4	43.1
Knox	39.1	--	--	--	--	--	24.4	--	14.7
Lafayette	28.9	--	--	--	--	--	10.9	12.6	5.4
Lawrence	58.2	--	--	--	--	--	27.4	5.7	25.1
Lewis	63.1	--	2.9	2.9	--	--	40.1	11.8	5.4
Lincoln	106.2	--	2.8	--	--	--	36.4	7.6	59.4
Linn	32.7	--	--	--	--	--	15.0	2.8	14.9
Livingston	37.8	--	--	--	--	--	26.8	--	11.0
Macon	80.2	--	0.6	1.3	--	--	13.5	19.3	45.5
Marion	49.8	--	--	--	--	--	43.8	--	6.0
Mercer	29.6	--	--	--	--	--	24.2	--	5.4
Monroe	72.2	--	15.4	--	--	--	30.8	4.6	21.4
Nodaway	35.4	--	--	--	--	--	33.7	--	1.7
Pettis	58.6	--	3.4	--	--	--	41.6	7.8	5.8
Pike	112.2	--	2.2	5.7	--	--	40.8	6.6	56.9
Platte	45.0	--	--	--	1.8	--	28.2	3.9	11.1
Putnam	59.8	--	--	8.4	--	--	28.1	7.2	16.1
Ralls	61.7	--	3.5	--	--	--	30.2	2.8	25.2
Randolph	45.1	--	--	--	--	--	18.8	7.0	19.3
Ray	48.5	--	--	--	1.9	--	25.9	--	20.7
Saline	49.4	--	2.2	2.2	--	--	32.4	2.2	10.4
Schuyler	26.2	--	--	--	--	--	8.0	10.0	8.2
Scotland	30.3	--	--	2.4	--	--	17.2	4.5	6.2
Shelby	47.8	--	--	--	--	--	33.4	--	14.4
Sullivan	50.4	--	--	2.7	--	--	31.6	10.7	5.4
Vernon	89.1	--	--	3.2	--	--	66.7	--	19.2
Worth	18.6	--	--	--	--	--	11.2	7.4	--
Total	2,500.3	--	77.6	53.7	25.8	--	1,232.0	272.7	838.5
Riverborder Unit									
Boone	107.0	1.5	--	2.3	--	--	63.2	4.8	35.2
Callaway	181.3	6.6	--	--	--	--	67.4	11.8	95.5
Cape Girardeau	94.5	--	--	--	--	2.5	67.4	8.8	15.8
Cole	71.1	--	--	2.1	--	--	30.5	--	38.5
Dunklin	21.8	--	--	11.1	3.0	--	4.9	--	2.8
Franklin	248.3	--	--	9.6	--	--	87.3	20.3	131.1
Gasconade	139.9	--	--	--	--	--	66.1	4.6	69.2
Howard	60.4	--	--	6.8	--	--	34.0	--	19.6
Jefferson	222.5	--	--	4.5	--	--	44.7	43.5	129.8
Mississippi	13.7	--	--	--	--	--	5.9	1.0	6.8
Moniteau	54.6	--	--	--	--	--	40.5	--	14.1
Montgomery	98.5	--	--	5.8	--	--	31.4	2.9	58.4
New Madrid	18.9	--	--	5.5	--	--	6.5	4.6	2.3
Osage	141.7	--	1.7	--	--	--	73.7	--	66.3
Pemiscot	11.3	--	--	1.9	2.8	--	6.6	--	--
Perry	116.6	--	--	--	--	5.2	64.5	--	46.9
St. Charles	83.8	--	--	15.0	--	--	8.2	14.2	46.4
St. Louis	31.9	--	--	--	1.3	--	--	25.2	5.4
Ste. Genevieve	177.3	9.9	--	--	--	--	85.8	19.0	62.6
Scott	19.1	--	--	--	1.3	--	10.2	1.6	6.0
Stoddard	47.8	--	7.2	1.5	--	--	13.0	--	26.1
Warren	130.7	--	--	21.1	--	--	39.3	24.5	45.8
Total	2,092.7	18.0	8.9	87.2	8.4	7.7	851.1	186.8	924.6
All counties	13,370.8	1,320.9	246.3	402.5	42.2	222.4	5,023.8	928.9	5,183.8

Table 3.--Area of timberland by county and forest type, Missouri, 1989

(In thousand acres)

Unit and County	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Eastern Ozarks Unit													
Bollinger	215.5	--	--	--	3.9	29.6	112.7	50.7	--	--	--	18.6	--
Butler	130.7	15.0	--	--	14.2	10.7	65.5	15.1	5.3	3.1	--	1.8	--
Carter	266.4	23.0	--	--	38.5	29.2	107.4	61.9	--	3.2	--	3.2	--
Crawford	321.9	--	1.6	1.6	4.1	81.3	100.8	113.9	--	13.0	--	5.6	--
Dent	302.4	8.2	--	--	33.9	74.7	130.7	52.9	--	--	--	2.0	--
Iron	275.9	4.4	5.0	2.2	9.4	4.2	125.1	116.7	--	--	--	8.9	--
Madison	239.6	10.6	--	7.4	15.2	17.9	101.8	73.0	--	3.4	--	8.4	1.9
Oregon	292.6	1.9	--	--	18.1	62.3	171.2	28.5	--	--	--	8.7	1.9
Reynolds	425.5	10.6	2.2	--	22.5	23.7	229.1	111.4	--	3.3	--	22.7	--
Ripley	269.0	15.2	--	--	5.7	59.3	118.8	43.8	4.4	13.9	--	7.9	--
St. Francois	142.3	--	5.4	12.5	--	25.8	50.2	40.7	--	5.0	--	2.7	--
Shannon	466.5	23.8	--	10.7	38.1	42.9	252.3	96.3	--	--	--	2.4	--
Washington	375.2	11.0	--	14.9	25.7	72.2	111.6	116.0	--	1.8	--	22.0	--
Wayne	386.5	9.4	4.0	1.7	20.0	32.4	221.9	80.8	--	1.7	--	14.6	--
Total	4,110.0	133.1	18.2	51.0	249.3	566.2	1,899.1	1,001.7	9.7	48.4	--	129.5	3.8
Southwest Ozarks Unit													
Barry	201.7	--	10.4	16.1	6.0	23.5	114.9	19.9	--	--	--	10.9	--
Christian	143.5	--	2.7	10.0	--	9.0	71.3	40.9	--	3.5	--	6.1	--
Douglas	300.3	8.5	--	5.6	18.8	79.8	127.2	39.6	--	2.8	--	18.0	--
Howell	277.8	16.3	--	--	11.4	111.3	108.6	27.8	--	--	--	--	2.4
McDonald	184.7	--	--	4.1	--	23.0	116.9	38.7	--	--	--	2.0	--
Newton	97.6	--	--	--	--	35.2	42.8	12.0	--	3.6	--	4.0	--
Ozark	251.0	--	1.9	26.8	24.8	88.6	71.0	20.7	--	6.0	--	8.3	2.9
Stone	125.1	--	11.2	16.4	--	7.2	73.1	13.5	--	--	--	3.7	--
Taney	230.6	2.4	12.8	82.3	--	45.1	57.9	13.4	--	--	--	16.7	--
Texas	412.7	35.3	--	16.0	48.8	101.4	127.7	66.3	--	6.0	--	11.2	--
Webster	118.4	--	11.4	--	--	41.2	39.9	20.9	--	--	--	5.0	--
Wright	154.8	--	3.3	2.0	--	67.7	44.0	28.6	--	2.0	--	7.2	--
Total	2,498.2	62.5	53.7	179.3	109.8	633.0	995.3	342.3	--	23.9	--	93.1	5.3
Northwest Ozarks Unit													
Benton	188.6	--	--	2.7	--	67.4	83.8	11.3	--	--	--	23.4	--
Camden	235.4	--	6.2	3.7	--	70.9	102.5	50.0	--	--	--	2.1	--
Cedar	84.0	--	--	--	--	51.0	20.3	1.7	1.9	4.8	--	4.3	--
Dallas	136.9	--	--	12.4	--	39.3	59.6	17.9	--	6.2	--	1.5	--
Hickory	83.9	--	2.5	10.7	--	25.1	28.2	6.3	--	5.0	--	6.1	--
Laclede	207.0	6.0	1.1	2.7	1.8	98.2	78.1	16.2	--	--	--	2.9	--
Maries	137.2	3.5	8.8	11.4	--	52.8	25.4	29.3	--	--	--	6.0	--
Miller	173.4	--	5.5	12.7	--	29.3	63.4	52.3	--	10.2	--	--	--
Morgan	172.9	--	2.2	3.4	--	32.4	84.5	50.4	--	--	--	--	--
Phelps	262.9	12.6	8.3	--	2.3	105.3	83.3	47.2	--	--	--	3.9	--
Polk	105.0	--	14.2	13.4	--	34.0	26.9	15.0	--	1.5	--	--	--
Pulaski	220.7	9.9	3.5	2.9	--	43.3	103.9	45.3	--	5.8	--	6.1	--
St. Clair	161.7	--	--	2.0	--	48.3	52.1	30.6	1.6	5.7	--	21.4	--
Total	2,169.6	32.0	52.3	78.0	4.1	697.3	812.0	373.5	3.5	39.2	--	77.7	--

(Table 3 continued on next page)

(Table 3 continued)

Unit and County	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Prairie Unit													
Adair	68.5	--	--	--	--	2.7	10.8	42.0	--	2.7	--	10.3	--
Andrew	17.4	--	--	2.2	--	--	0.3	4.0	--	4.0	--	6.9	--
Atchison	16.6	--	--	--	--	--	1.8	--	--	9.4	--	5.4	--
Audrain	34.3	--	--	--	--	--	4.1	5.8	10.0	1.4	--	13.0	--
Barton	38.7	--	--	--	--	12.9	6.1	--	4.7	10.2	--	4.8	--
Bates	60.0	--	--	--	--	--	10.5	1.9	3.1	18.9	--	25.6	--
Buchanan	26.7	--	--	--	--	--	4.9	3.1	--	8.5	--	10.2	--
Caldwell	20.1	--	--	--	--	--	--	--	--	3.6	--	16.5	--
Carroll	40.9	--	--	--	--	2.1	4.4	6.2	--	5.4	--	22.8	--
Cass	51.3	--	--	--	--	4.6	12.0	4.6	2.3	6.5	--	21.3	--
Chariton	51.1	--	--	--	--	1.3	14.8	4.0	8.0	13.5	--	9.5	--
Clark	70.9	--	--	1.9	--	13.5	21.4	17.1	1.7	11.5	--	3.8	--
Clay	22.1	--	--	--	--	--	2.2	7.2	--	4.3	--	8.4	--
Clinton	11.0	--	--	--	--	--	2.6	1.6	--	--	--	6.8	--
Cooper	53.2	--	--	--	--	4.1	19.8	13.2	--	5.0	--	11.1	--
Dade	40.2	--	--	3.5	--	12.5	11.6	6.5	--	0.9	--	3.1	2.1
Daviess	41.4	--	--	--	--	--	6.1	14.2	2.3	12.0	--	6.8	--
De Kalb	11.4	--	--	--	--	--	8.2	--	--	3.2	--	--	--
Gentry	30.4	--	--	--	--	1.7	24.1	1.7	--	2.9	--	--	--
Greene	78.9	--	3.3	7.3	--	16.3	28.7	16.6	--	1.8	--	4.9	--
Grundy	17.2	--	--	--	--	--	--	5.8	--	8.0	--	3.4	--
Harrison	47.9	--	--	--	--	--	18.2	14.1	--	4.2	--	11.4	--
Henry	87.3	--	--	--	--	6.3	23.4	2.4	2.4	24.2	3.5	25.1	--
Holt	27.1	--	--	--	--	--	7.2	3.4	3.4	4.6	2.0	6.5	--
Jackson	38.9	--	--	--	--	--	8.6	8.5	--	7.0	1.3	13.5	--
Jasper	54.9	--	--	--	--	13.6	25.7	--	--	2.2	--	13.4	--
Johnson	66.0	--	--	--	--	12.4	27.1	9.0	1.7	5.1	--	10.7	--
Knox	39.1	--	2.9	--	--	--	8.2	10.8	--	12.9	--	4.3	--
Lafayette	28.9	--	--	--	--	--	20.1	--	--	3.1	--	5.7	--
Lawrence	58.2	--	--	--	--	25.6	17.2	8.3	--	--	--	7.1	--
Lewis	63.1	--	--	--	--	2.3	14.3	28.2	4.6	8.3	--	5.4	--
Lincoln	106.2	--	--	2.0	--	14.5	36.6	42.7	2.8	4.8	2.8	--	--
Linn	32.7	--	--	--	--	--	11.2	4.6	--	11.2	--	5.7	--
Livingston	37.8	--	3.2	--	--	3.8	6.2	7.2	--	6.1	--	11.3	--
Macon	80.2	--	--	--	--	7.0	25.4	17.8	--	18.1	--	11.9	--
Marion	49.8	--	--	--	--	--	20.6	17.8	--	2.5	2.5	6.4	--
Mercer	29.6	--	--	--	--	--	--	20.6	--	7.2	1.8	--	--
Monroe	72.2	--	--	--	--	3.8	17.0	15.4	6.2	4.0	--	25.8	--
Nodaway	35.4	--	--	--	--	--	4.5	7.5	9.9	6.6	5.2	1.7	--
Pettis	58.6	--	2.4	--	--	9.2	19.0	6.8	3.4	6.6	--	8.0	3.2
Pike	112.2	--	--	--	--	4.4	29.4	60.8	--	8.8	--	8.8	--
Platte	45.0	--	--	--	--	--	13.9	10.4	--	3.9	--	16.8	--
Putnam	59.8	--	1.8	--	--	4.2	19.2	15.5	--	--	--	19.1	--
Ralls	61.7	--	--	3.5	--	--	14.0	22.0	--	9.6	--	12.6	--
Randolph	45.1	--	--	--	--	--	22.2	14.4	3.5	--	--	5.0	--
Ray	48.5	--	--	--	--	--	1.9	10.6	--	8.2	1.7	26.1	--

(Table 3 continued on next page)

(Table 3 continued)

Unit and County	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Prairie Unit, continued													
Saline	49.4	--	--	--	--	--	19.2	10.6	--	2.5	--	17.1	--
Schuyler	26.2	--	--	--	--	--	10.6	7.7	--	5.5	--	2.4	--
Scotland	30.3	--	--	--	--	--	9.9	8.0	1.7	2.8	--	7.9	--
Shelby	47.8	--	--	--	--	--	11.2	17.4	5.2	7.6	--	6.4	--
Sullivan	50.4	--	--	--	--	2.7	12.6	22.5	--	2.7	--	9.9	--
Vernon	89.1	--	--	--	--	28.7	10.3	4.4	4.3	24.4	--	17.0	--
Worth	18.6	--	--	--	--	--	7.8	--	--	--	--	10.8	--
Total	2,500.3	--	13.6	20.4	--	210.2	687.1	584.9	81.2	348.4	20.8	528.4	5.3
Riverborder Unit													
Boone	107.0	--	2.3	12.6	--	--	29.5	34.8	--	12.7	--	15.1	--
Callaway	181.3	--	--	19.1	--	2.5	68.6	73.2	--	1.7	--	16.2	--
Cape Girardeau	94.5	--	--	--	--	4.4	52.4	18.8	--	10.4	--	8.5	--
Cole	71.1	--	9.0	3.5	--	10.5	5.5	35.1	--	5.5	--	2.0	--
Dunklin	21.8	--	--	--	--	--	4.5	0.6	8.9	6.6	--	--	1.2
Franklin	248.3	--	18.1	24.0	--	64.3	49.0	70.4	--	13.3	--	9.2	--
Gasconade	139.9	--	5.6	10.7	--	40.9	26.1	51.5	--	2.3	--	2.8	--
Howard	60.4	--	--	4.0	--	--	8.1	28.8	--	5.1	--	14.4	--
Jefferson	222.5	--	19.2	30.0	--	59.0	39.5	51.1	--	5.6	--	18.1	--
Mississippi	13.7	--	--	--	--	--	--	--	2.5	11.2	--	--	--
Moniteau	54.6	--	2.0	3.7	--	7.8	11.3	22.0	--	--	--	7.8	--
Montgomery	98.5	--	--	11.4	--	9.7	30.5	38.9	--	--	--	5.1	2.9
New Madrid	18.9	--	--	--	--	--	--	--	--	16.6	--	2.3	--
Osage	141.7	--	8.0	13.2	--	30.2	25.5	55.1	--	3.9	--	5.8	--
Pemiscot	11.3	--	--	--	--	--	--	--	--	8.5	2.8	--	--
Perry	116.6	5.2	7.2	5.2	--	13.4	36.8	22.8	--	10.4	--	15.6	--
St. Charles	83.8	--	8.2	3.0	--	11.2	20.2	24.0	--	4.1	3.0	10.1	--
St. Louis	31.9	--	--	--	--	5.4	3.6	18.0	--	1.3	--	3.6	--
Ste. Genevieve	177.3	--	7.6	19.8	7.6	55.0	59.3	19.0	--	8.8	--	0.2	--
Scott	19.1	--	--	--	--	--	5.6	4.9	--	7.3	--	1.3	--
Stoddard	47.8	--	--	--	--	1.5	8.0	12.0	11.5	1.2	--	13.6	--
Warren	130.7	--	--	--	--	8.0	34.7	68.7	--	1.3	2.7	15.3	--
Total	2,092.7	5.2	87.2	160.2	7.6	323.8	518.7	649.7	22.9	137.8	8.5	167.0	4.1
All counties	13,370.8	232.8	225.0	488.9	370.8	2,430.5	4,912.2	2,952.1	117.3	597.7	29.3	995.7	18.5

Table 4.--Area of timberland by county and stand-size class, Missouri, 1989

(In thousand acres)

Unit and County	All stands	Stand-size class			
		Sawtimber	Poletimber	Seedling & Sapling	Nonstocked
Eastern Ozarks Unit					
Bollinger	215.5	110.7	53.0	51.8	--
Butler	130.7	74.4	42.0	14.3	--
Carter	266.4	112.2	76.4	77.8	--
Crawford	321.9	162.3	75.7	83.9	--
Dent	302.4	136.8	85.3	80.3	--
Iron	275.9	126.6	102.3	47.0	--
Madison	239.6	107.9	72.8	57.0	1.9
Oregon	292.6	132.3	51.7	106.7	1.9
Reynolds	425.5	238.4	97.1	90.0	--
Ripley	269.0	117.0	76.2	75.8	--
St. Francois	142.3	78.1	46.3	17.9	--
Shannon	466.5	213.9	113.1	139.5	--
Washington	375.2	183.1	122.0	70.1	--
Wayne	386.5	190.7	117.2	78.6	--
Total	4,110.0	1,984.4	1,131.1	990.7	3.8
Southwest Ozarks Unit					
Barry	201.7	97.0	59.3	45.4	--
Christian	143.5	72.6	27.9	43.0	--
Douglas	300.3	146.1	92.9	61.3	--
Howell	277.8	107.8	81.6	86.0	2.4
McDonald	184.7	121.1	33.8	29.8	--
Newton	97.6	43.6	42.1	11.9	--
Ozark	251.0	110.0	77.7	60.4	2.9
Stone	125.1	37.6	52.2	35.3	--
Taney	230.6	70.6	84.2	75.8	--
Texas	412.7	173.6	102.8	136.3	--
Webster	118.4	55.3	31.8	31.3	--
Wright	154.8	50.9	55.2	48.7	--
Total	2,498.2	1,086.2	741.5	665.2	5.3
Northwest Ozarks Unit					
Benton	188.6	76.2	80.3	32.1	--
Camden	235.4	152.4	46.8	36.2	--
Cedar	84.0	32.4	29.9	21.7	--
Dallas	136.9	59.1	36.1	41.7	--
Hickory	83.9	34.5	28.0	21.4	--
Laclede	207.0	85.8	80.1	41.1	--
Maries	137.2	63.4	47.7	26.1	--
Miller	173.4	97.5	46.4	29.5	--
Morgan	172.9	79.8	52.9	40.2	--
Phelps	262.9	82.6	95.0	85.3	--
Polk	105.0	38.3	39.3	27.4	--
Pulaski	220.7	96.8	55.5	68.4	--
St. Clair	161.7	67.1	64.0	30.6	--
Total	2,169.6	965.9	702.0	501.7	--
Prairie Unit					
Adair	68.5	23.6	23.8	21.1	--
Andrew	17.4	2.2	4.0	11.2	--
Atchison	16.6	9.0	3.6	4.0	--
Audrain	34.3	19.1	7.4	7.8	--
Barton	38.7	14.2	18.4	6.1	--
Bates	60.0	24.3	15.7	20.0	--
Buchanan	26.7	17.0	7.8	1.9	--
Caldwell	20.1	7.2	12.9	--	--
Carroll	40.9	29.0	10.4	1.5	--
Cass	51.3	29.1	2.1	20.1	--
Chariton	51.1	32.5	16.7	1.9	--
Clark	70.9	35.0	24.9	11.0	--
Clay	22.1	15.9	6.2	--	--
Clinton	11.0	3.2	5.2	2.6	--
Cooper	53.2	30.7	21.4	1.1	--

(Table 4 continued on next page)

(Table 4 continued)

Unit and County	All stands	Stand-size class			
		Sawtimber	Poletimber	Seedling & Sapling	Nonstocked
Prairie Unit, continued					
Dade	40.2	7.5	20.3	10.3	2.1
Daviess	41.4	28.4	9.3	3.7	--
De Kalb	11.4	11.4	--	--	--
Gentry	30.4	14.0	13.5	2.9	--
Greene	78.9	30.8	20.6	27.5	--
Grundy	17.2	14.8	1.2	1.2	--
Harrison	47.9	21.7	16.8	9.4	--
Henry	87.3	46.7	19.0	21.6	--
Holt	27.1	13.9	7.9	5.3	--
Jackson	38.9	12.1	14.7	12.1	--
Jasper	54.9	23.4	26.8	4.7	--
Johnson	66.0	28.1	24.6	13.3	--
Knox	39.1	29.4	9.7	--	--
Lafayette	28.9	9.3	1.9	17.7	--
Lawrence	58.2	29.7	15.5	13.0	--
Lewis	63.1	33.6	18.3	11.2	--
Lincoln	106.2	64.6	30.8	10.8	--
Linn	32.7	17.7	3.8	11.2	--
Livingston	37.8	17.1	13.3	7.4	--
Macon	80.2	33.6	27.9	18.7	--
Marion	49.8	22.8	19.8	7.2	--
Mercer	29.6	24.2	1.8	3.6	--
Monroe	72.2	36.4	28.4	7.4	--
Nodaway	35.4	32.3	--	3.1	--
Pettis	58.6	32.6	11.6	11.2	3.2
Pike	112.2	61.8	26.6	23.8	--
Platte	45.0	25.0	15.4	4.6	--
Putnam	59.8	18.1	16.6	25.1	--
Ralls	61.7	44.1	11.7	5.9	--
Randolph	45.1	21.5	18.6	5.0	--
Ray	48.5	16.2	28.7	3.6	--
Saline	49.4	29.3	9.1	11.0	--
Schuyler	26.2	7.1	11.9	7.2	--
Scotland	30.3	9.1	9.1	12.1	--
Shelby	47.8	24.0	18.6	5.2	--
Sullivan	50.4	24.3	20.6	5.5	--
Vernon	89.1	48.6	27.2	13.3	--
Worth	18.6	16.8	1.8	--	--
Total	2,500.3	1,274.0	753.9	467.1	5.3
Riverborder Unit					
Boone	107.0	52.1	26.5	28.4	--
Callaway	181.3	92.8	66.0	22.5	--
Cape Girardeau	94.5	76.9	13.2	4.4	--
Cole	71.1	40.7	21.6	8.8	--
Dunklin	21.8	20.0	--	0.6	1.2
Franklin	248.3	149.6	73.7	25.0	--
Gasconade	139.9	61.7	65.2	13.0	--
Howard	60.4	35.2	17.1	8.1	--
Jefferson	222.5	116.2	54.2	52.1	--
Mississippi	13.7	13.7	--	--	--
Moniteau	54.6	20.0	24.0	10.6	--
Montgomery	98.5	65.7	29.9	--	2.9
New Madrid	18.9	17.4	--	1.5	--
Osage	141.7	73.6	45.4	22.7	--
Pemiscot	11.3	11.3	--	--	--
Perry	116.6	78.1	20.8	17.7	--
St. Charles	83.8	65.1	18.7	--	--
St. Louis	31.9	31.9	--	--	--
Ste. Genevieve	177.3	121.1	38.9	17.3	--
Scott	19.1	19.1	--	--	--
Stoddard	47.8	28.8	7.0	12.0	--
Warren	130.7	103.1	26.3	1.3	--
Total	2,092.7	1,294.1	548.5	246.0	4.1
All counties	13,370.8	6,604.6	3,877.0	2,870.7	18.5

Table 5.--Area of timberland by county and potential productivity class, Missouri, 1989

(In thousand acres)

Unit and County	All classes	Potential productivity class (cubic feet of growth per acre per year)				
		165+	120-164	85-119	50-84	20-49
Eastern Ozarks Unit						
Bollinger	215.5	--	--	2.5	129.4	83.6
Butler	130.7	--	--	3.0	85.3	42.4
Carter	266.4	--	--	12.6	153.7	100.1
Crawford	321.9	--	--	7.2	122.9	191.8
Dent	302.4	--	--	--	142.8	159.6
Iron	275.9	--	--	--	165.2	110.7
Madison	239.6	--	--	3.4	108.3	127.9
Oregon	292.6	--	--	3.6	210.4	78.6
Reynolds	425.5	--	--	15.5	301.4	108.6
Ripley	269.0	--	3.4	9.3	146.9	109.4
St. Francois	142.3	--	--	--	44.9	97.4
Shannon	466.5	--	--	2.4	273.7	190.4
Washington	375.2	--	--	7.5	139.2	228.5
Wayne	386.5	--	--	8.5	243.0	135.0
Total	4,110.0	--	3.4	75.5	2,267.1	1,764.0
Southwest Ozarks Unit						
Barry	201.7	--	--	2.5	124.6	74.6
Christian	143.5	--	--	--	56.8	86.7
Douglas	300.3	--	--	--	185.5	114.8
Howell	277.8	--	--	2.9	176.6	98.3
McDonald	184.7	--	--	3.3	121.0	60.4
Newton	97.6	--	3.6	--	73.7	20.3
Ozark	251.0	--	--	2.8	119.7	128.5
Stone	125.1	--	3.7	--	66.2	55.2
Taney	230.6	--	--	--	63.8	166.8
Texas	412.7	--	--	3.8	164.5	244.4
Webster	118.4	--	--	--	66.3	52.1
Wright	154.8	--	--	7.2	77.4	70.2
Total	2,498.2	--	7.3	22.5	1,296.1	1,172.3
Northwest Ozarks Unit						
Benton	188.6	--	--	--	53.0	135.6
Camden	235.4	--	--	2.1	104.6	128.7
Cedar	84.0	--	--	2.4	40.3	41.3
Dallas	136.9	--	--	1.5	50.4	85.0
Hickory	83.9	--	2.9	--	23.2	57.8
Laclede	207.0	--	--	--	78.7	128.3
Maries	137.2	--	--	4.7	29.8	102.7
Miller	173.4	--	--	6.8	80.5	86.1
Morgan	172.9	--	--	--	53.7	119.2
Phelps	262.9	--	--	1.9	57.8	203.2
Polk	105.0	--	--	--	48.5	56.5
Pulaski	220.7	--	2.9	2.9	94.1	120.8
St. Clair	161.7	--	--	16.1	53.4	92.2
Total	2,169.6	--	5.8	38.4	768.0	1,357.4
Prairie Unit						
Adair	68.5	--	--	8.1	33.9	26.5
Andrew	17.4	--	4.0	0.3	8.7	4.4
Atchison	16.6	--	--	1.8	7.2	7.6
Audrain	34.3	--	1.4	9.1	8.8	15.0
Barton	38.7	--	--	5.2	17.4	16.1
Bates	60.0	--	--	7.7	8.6	43.7
Buchanan	26.7	--	--	3.6	14.0	9.1
Caldwell	20.1	--	3.6	--	3.6	12.9
Carroll	40.9	--	--	10.8	21.4	8.7
Cass	51.3	--	--	5.4	18.0	27.9
Chariton	51.1	2.0	--	11.4	16.2	21.5
Clark	70.9	--	--	5.1	27.2	38.6
Clay	22.1	--	--	--	15.9	6.2
Clinton	11.0	--	--	--	2.6	8.4
Cooper	53.2	--	--	2.5	35.7	15.0

(Table 5 continued on next page)

(Table 5 continued)

Unit and County	All classes	Potential productivity class (cubic feet of growth per acre per year)				
		165+	120-164	85-119	50-84	20-49
Prairie Unit, continued						
Dade	40.2	--	--	4.0	15.5	20.7
Daviess	41.4	--	--	1.0	28.9	11.5
De Kalb	11.4	--	--	6.6	4.8	--
Gentry	30.4	--	--	--	27.0	3.4
Greene	78.9	--	--	1.8	52.8	24.3
Grundy	17.2	--	3.4	3.4	3.6	6.8
Harrison	47.9	--	--	8.4	25.5	14.0
Henry	87.3	--	--	17.1	43.1	27.1
Holt	27.1	--	--	--	10.0	17.1
Jackson	38.9	2.5	3.5	4.8	19.3	8.8
Jasper	54.9	--	--	1.1	44.6	9.2
Johnson	66.0	--	--	5.1	29.0	31.9
Knox	39.1	--	--	2.9	33.3	2.9
Lafayette	28.9	--	--	12.6	14.4	1.9
Lawrence	58.2	--	--	--	23.5	34.7
Lewis	63.1	--	2.9	5.4	33.6	21.2
Lincoln	106.2	--	--	5.6	44.2	56.4
Linn	32.7	--	2.3	4.9	20.9	4.6
Livingston	37.8	--	--	4.3	18.9	14.6
Macon	80.2	2.6	2.6	19.7	45.0	10.3
Marion	49.8	--	4.3	2.5	23.1	19.9
Mercer	29.6	--	--	7.2	18.8	3.6
Monroe	72.2	1.6	3.8	3.6	30.8	32.4
Nodaway	35.4	--	--	10.4	12.3	12.7
Pettis	58.6	--	--	3.4	14.8	40.4
Pike	112.2	--	6.6	4.4	50.4	50.8
Platte	45.0	--	--	9.2	10.0	25.8
Putnam	59.8	--	1.8	--	24.7	33.3
Ralls	61.7	3.5	--	6.8	35.3	16.1
Randolph	45.1	--	--	3.5	33.1	8.5
Ray	48.5	--	1.7	2.2	17.1	27.5
Saline	49.4	2.5	--	10.4	21.1	15.4
Schuyler	26.2	--	--	7.9	11.4	6.9
Scotland	30.3	--	--	9.5	15.1	5.7
Shelby	47.8	--	2.0	5.2	27.0	13.6
Sullivan	50.4	--	--	--	20.8	29.6
Vernon	89.1	1.6	1.6	13.6	24.0	48.3
Worth	18.6	--	--	--	9.0	9.6
Total	2,500.3	16.3	45.5	279.5	1,175.9	983.1
Riverborder Unit						
Boone	107.0	--	--	13.3	62.4	31.3
Callaway	181.3	--	--	7.5	84.1	89.7
Cape Girardeau	94.5	3.5	--	8.5	78.1	4.4
Cole	71.1	--	--	6.1	13.7	51.3
Dunklin	21.8	--	--	6.0	5.7	10.1
Franklin	248.3	--	--	19.7	100.3	128.3
Gasconade	139.9	--	2.3	--	26.9	110.7
Howard	60.4	--	2.8	2.3	43.0	12.3
Jefferson	222.5	--	--	5.6	71.9	145.0
Mississippi	13.7	--	--	8.7	--	5.0
Moniteau	54.6	--	2.1	--	28.5	24.0
Montgomery	98.5	--	--	5.1	42.7	50.7
New Madrid	18.9	--	8.6	7.3	1.5	1.5
Osage	141.7	--	--	1.7	70.3	69.7
Pemiscot	11.3	--	4.7	3.8	2.8	--
Perry	116.6	--	10.4	5.2	54.5	46.5
St. Charles	83.8	--	3.0	10.1	38.2	32.5
St. Louis	31.9	--	--	--	17.5	14.4
Ste. Genevieve	177.3	--	--	--	77.8	99.5
Scott	19.1	--	--	10.4	8.7	--
Stoddard	47.8	13.6	1.2	4.0	16.5	12.5
Warren	130.7	--	--	17.5	52.6	60.6
Total	2,092.7	17.1	35.1	142.8	897.7	1,000.0
All counties	13,370.8	33.4	97.1	558.7	6,404.8	6,276.8

Table 6.--Area of timberland by county and stocking class of growing-stock trees, Missouri, 1989

(In thousand acres)

Unit and County	All classes	Stocking percent of growing-stock trees				
		Nonstocked	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Eastern Ozarks Unit						
Bollinger	215.5	--	68.0	111.5	34.0	2.0
Butler	130.7	--	36.4	66.3	19.8	8.2
Carter	266.4	--	41.7	161.0	49.0	14.7
Crawford	321.9	--	108.8	163.0	45.0	5.1
Dent	302.4	1.6	79.4	170.4	43.3	7.7
Iron	275.9	1.7	50.2	179.4	44.6	--
Madison	239.6	3.8	42.2	136.0	54.3	3.3
Oregon	292.6	3.8	85.2	142.7	48.3	12.6
Reynolds	425.5	3.9	98.1	195.4	114.6	13.5
Ripley	269.0	7.1	36.9	131.1	71.0	22.9
St. Francois	142.3	--	64.6	65.1	12.6	--
Shannon	466.5	--	74.1	262.3	122.8	7.3
Washington	375.2	--	105.8	185.7	76.0	7.7
Wayne	386.5	--	82.3	224.0	80.2	--
Total	4,110.0	21.9	973.7	2,193.9	815.5	105.0
Southwest Ozarks Unit						
Barry	201.7	2.5	55.5	119.0	22.7	2.0
Christian	143.5	5.4	62.6	72.1	0.7	2.7
Douglas	300.3	--	109.2	144.8	28.3	18.0
Howell	277.8	2.4	63.3	154.5	41.2	16.4
McDonald	184.7	1.4	86.5	67.4	29.4	--
Newton	97.6	--	37.9	51.1	8.6	--
Ozark	251.0	2.9	72.8	147.2	21.4	6.7
Stone	125.1	--	48.3	74.4	2.4	--
Taney	230.6	--	94.6	119.1	15.2	1.7
Texas	412.7	3.0	112.8	188.3	85.2	23.4
Webster	118.4	--	50.1	53.7	14.6	--
Wright	154.8	2.6	62.9	68.3	21.0	--
Total	2,498.2	20.2	856.5	1,259.9	290.7	70.9
Northwest Ozarks Unit						
Benton	188.6	2.7	74.9	101.2	8.1	1.7
Camden	235.4	6.8	79.5	133.6	12.3	3.2
Cedar	84.0	--	42.1	41.9	--	--
Dallas	136.9	1.5	39.3	82.5	11.1	2.5
Hickory	83.9	2.1	24.0	47.1	10.7	--
Laclede	207.0	--	68.8	104.8	29.1	4.3
Maries	137.2	--	55.8	61.1	17.6	2.7
Miller	173.4	--	64.1	89.5	19.8	--
Morgan	172.9	3.4	68.2	85.9	12.0	3.4
Phelps	262.9	--	47.4	166.3	38.2	11.0
Polk	105.0	--	39.4	50.9	14.7	--
Pulaski	220.7	--	54.8	127.2	29.4	9.3
St. Clair	161.7	8.4	83.7	62.7	6.9	--
Total	2,169.6	24.9	742.0	1,154.7	209.9	38.1
Prairie Unit						
Adair	68.5	--	25.8	29.2	13.5	--
Andrew	17.4	0.3	13.1	4.0	--	--
Atchison	16.6	--	10.8	5.8	--	--
Audrain	34.3	--	17.1	8.9	8.3	--
Barton	38.7	10.0	19.7	9.0	--	--
Bates	60.0	1.5	40.2	18.3	--	--
Buchanan	26.7	1.8	19.8	4.6	0.5	--
Caldwell	20.1	--	12.9	7.2	--	--
Carroll	40.9	--	26.6	14.3	--	--
Cass	51.3	--	25.6	25.7	--	--
Chariton	51.1	--	12.9	28.3	9.9	--
Clark	70.9	4.5	36.4	19.6	10.4	--
Clay	22.1	--	15.6	6.5	--	--
Clinton	11.0	2.6	4.2	4.2	--	--
Cooper	53.2	--	27.7	23.0	2.5	--

(Table 6 continued on next page)

(Table 6 continued)

Unit and County	All classes	Stocking percent of growing stock-trees				
		Nonstocked	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Prairie Unit, continued						
Dade	40.2	2.1	11.2	22.5	4.4	--
Daviess	41.4	--	13.6	16.2	11.6	--
De Kalb	11.4	--	3.2	1.6	6.6	--
Gentry	30.4	--	15.2	12.3	--	2.9
Greene	78.9	--	21.7	50.0	7.2	--
Grundy	17.2	--	8.0	8.0	1.2	--
Harrison	47.9	--	16.1	21.0	8.6	2.2
Henry	87.3	--	48.7	37.1	--	1.5
Holt	27.1	--	19.8	7.3	--	--
Jackson	38.9	--	22.0	12.3	4.6	--
Jasper	54.9	--	40.2	10.0	4.7	--
Johnson	66.0	1.5	30.9	28.4	3.5	1.7
Knox	39.1	--	24.5	14.6	--	--
Lafayette	28.9	--	12.3	16.6	--	--
Lawrence	58.2	--	20.9	29.7	7.6	--
Lewis	63.1	--	12.5	41.9	5.8	2.9
Lincoln	106.2	14.5	32.5	41.2	18.0	--
Linn	32.7	3.0	17.1	12.6	--	--
Livingston	37.8	--	16.0	20.4	1.4	--
Macon	80.2	3.5	19.0	55.1	2.6	--
Marion	49.8	--	13.4	30.4	6.0	--
Mercer	29.6	--	1.8	26.0	1.8	--
Monroe	72.2	1.6	33.8	27.2	9.6	--
Nodaway	35.4	--	28.5	6.9	--	--
Pettis	58.6	3.2	31.6	23.8	--	--
Pike	112.2	--	40.1	55.5	16.6	--
Platte	45.0	2.9	30.4	11.7	--	--
Putnam	59.8	2.1	15.0	33.7	9.0	--
Ralls	61.7	--	29.9	28.3	3.5	--
Randolph	45.1	--	11.7	33.4	--	--
Ray	48.5	--	36.9	9.9	--	1.7
Saline	49.4	--	23.2	26.2	--	--
Schuyler	26.2	--	7.6	16.2	2.4	--
Scotland	30.3	2.4	19.2	8.7	--	--
Shelby	47.8	--	14.8	30.4	2.6	--
Sullivan	50.4	--	21.5	21.7	7.2	--
Vernon	89.1	2.7	52.8	30.9	2.7	--
Worth	18.6	7.4	3.4	7.8	--	--
Total	2,500.3	67.6	1,129.4	1,096.1	194.3	12.9
Riverborder Unit						
Boone	107.0	--	35.4	67.0	4.6	--
Callaway	181.3	--	43.5	91.9	45.9	--
Cape Girardeau	94.5	--	17.5	61.2	15.8	--
Cole	71.1	--	32.1	37.0	2.0	--
Dunklin	21.8	1.2	11.0	5.3	4.3	--
Franklin	248.3	3.5	52.7	176.2	12.4	3.5
Gasconade	139.9	--	29.3	92.9	13.5	4.2
Howard	60.4	--	21.2	27.6	11.6	--
Jefferson	222.5	--	42.7	159.3	15.1	5.4
Mississippi	13.7	3.5	8.4	1.8	--	--
Moniteau	54.6	5.7	17.3	26.7	2.9	2.0
Montgomery	98.5	2.9	28.3	55.8	11.5	--
New Madrid	18.9	1.5	17.4	--	--	--
Osage	141.7	--	49.0	82.3	10.4	--
Pemiscot	11.3	--	5.6	3.8	1.9	--
Perry	116.6	--	23.7	66.9	26.0	--
St. Charles	83.8	--	7.1	58.4	14.2	4.1
St. Louis	31.9	1.3	12.6	10.8	7.2	--
Ste. Genevieve	177.3	3.8	47.8	105.4	19.8	0.5
Scott	19.1	--	2.6	14.5	2.0	--
Stoddard	47.8	1.5	11.7	20.3	14.3	--
Warren	130.7	--	32.5	73.5	22.0	2.7
Total	2,092.7	24.9	549.4	1,238.6	257.4	22.4
All counties	13,370.8	159.5	4,251.0	6,943.2	1,767.8	249.3

Table 7.--Area of timberland by ownership class, stocking class of growing-stock trees, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Unit and County	All classes	Stocking percent of growing stock trees				
		Nonstocked	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
All Units						
National forest	1,320.9	--	127.7	781.6	326.3	85.3
Miscellaneous federal	246.3	2.7	98.2	112.4	29.5	3.5
State	402.5	4.5	105.7	210.6	78.9	2.8
County and municipal	42.2	2.5	23.0	11.9	4.8	--
Forest industry	222.4	3.0	57.5	106.0	55.9	--
Farmer	5,023.8	70.6	1,895.4	2,511.5	472.2	74.1
Misc. private corporation	928.9	17.9	290.9	480.6	119.1	20.4
Misc. private individual	5,183.8	58.3	1,652.6	2,728.6	681.1	63.2
All owners	13,370.8	159.5	4,251.0	6,943.2	1,767.8	249.3
Eastern Ozarks Unit						
National forest	873.8	--	69.1	505.2	238.4	61.1
Miscellaneous federal	41.1	--	14.9	13.6	12.6	--
State	197.1	--	45.0	114.1	35.2	2.8
County and municipal	--	--	--	--	--	--
Forest industry	184.3	--	52.4	95.0	36.9	--
Farmer	934.9	10.3	270.5	509.0	135.5	9.6
Misc. private corporation	289.4	--	88.0	144.8	53.7	2.9
Misc. private individual	1,589.4	11.6	433.8	812.2	303.2	28.6
All owners	4,110.0	21.9	973.7	2,193.9	815.5	105.0
Southwest Ozarks Unit						
National forest	294.0	--	47.3	173.8	51.3	21.6
Miscellaneous federal	16.7	--	2.9	13.8	--	--
State	38.1	--	12.1	21.8	4.2	--
County and municipal	5.1	--	--	5.1	--	--
Forest industry	30.4	3.0	2.6	11.0	13.8	--
Farmer	1,205.2	10.7	456.1	586.3	118.9	33.2
Misc. private corporation	86.1	--	24.0	49.2	9.2	3.7
Misc. private individual	822.6	6.5	311.5	398.9	93.3	12.4
All owners	2,498.2	20.2	856.5	1,259.9	290.7	70.9
Northwest Ozarks Unit						
National forest	135.1	--	7.3	89.1	36.6	2.1
Miscellaneous federal	102.0	2.7	39.0	48.1	8.7	3.5
State	26.4	--	5.0	10.4	11.0	--
County and municipal	2.9	--	2.9	--	--	--
Forest industry	--	--	--	--	--	--
Farmer	800.6	5.8	300.7	422.1	56.4	15.6
Misc. private corporation	93.9	--	38.8	38.8	12.0	4.3
Misc. private individual	1,008.7	16.4	348.3	546.2	85.2	12.6
All owners	2,169.6	24.9	742.0	1,154.7	209.9	38.1
Prairie Unit						
National forest	--	--	--	--	--	--
Miscellaneous federal	77.6	--	38.5	35.4	3.7	--
State	53.7	4.5	27.3	16.0	5.9	--
County and municipal	25.8	--	15.5	6.8	3.5	--
Forest industry	--	--	--	--	--	--
Farmer	1,232.0	26.8	615.7	501.7	80.3	7.5
Misc. private corporation	272.7	16.9	100.5	136.6	18.7	--
Misc. private individual	838.5	19.4	331.9	399.6	82.2	5.4
All owners	2,500.3	67.6	1,129.4	1,096.1	194.3	12.9
Riverborder Unit						
National forest	18.0	--	4.0	13.5	--	0.5
Miscellaneous federal	8.9	--	2.9	1.5	4.5	--
State	87.2	--	16.3	48.3	22.6	--
County and municipal	8.4	2.5	4.6	--	1.3	--
Forest industry	7.7	--	2.5	--	5.2	--
Farmer	851.1	17.0	252.4	492.4	81.1	8.2
Misc. private corporation	186.8	1.0	39.6	111.2	25.5	9.5
Misc. private individual	924.6	4.4	227.1	571.7	117.2	4.2
All owners	2,092.7	24.9	549.4	1,238.6	257.4	22.4

Table 8.--Area of timberland by forest type, ownership class, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Forest type	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
All Units									
Shortleaf pine	232.8	133.0	3.5	16.7	--	10.2	35.2	6.3	27.9
Eastern redcedar	225.0	4.0	1.6	4.1	--	--	97.7	13.9	103.7
E. redcedar-hardwood	488.9	26.4	11.1	9.1	--	--	213.0	34.9	194.4
Shortleaf pine-oak	370.8	140.3	--	13.7	--	25.1	81.3	5.6	104.8
Post-blackjack oak	2,430.5	108.2	38.3	32.3	2.6	32.4	992.2	141.1	1,083.4
Black-scarlet oak	4,912.2	564.4	71.4	193.1	13.7	115.5	1,638.8	337.2	1,978.1
White oak	2,952.1	314.5	48.2	64.8	9.7	33.7	1,080.6	193.8	1,206.8
Oak-gum-cypress	117.3	--	9.4	13.5	--	--	51.2	9.1	34.1
Elm-ash-soft maple	597.7	--	37.9	28.7	9.7	2.5	315.6	65.0	138.3
Cottonwood	29.3	--	2.8	--	2.8	--	14.1	1.3	8.3
Maple-beech	995.7	30.1	22.1	26.5	2.5	3.0	492.1	120.7	298.7
Nonstocked	18.5	--	--	--	1.2	--	12.0	--	5.3
All types	13,370.8	1,320.9	246.3	402.5	42.2	222.4	5,023.8	928.9	5,183.8
Eastern Ozarks Unit									
Shortleaf pine	133.1	81.9	--	10.8	--	4.8	13.7	6.3	15.6
Eastern redcedar	18.2	--	1.6	--	--	--	4.9	4.0	7.7
E. redcedar-hardwood	51.0	2.3	3.5	--	--	--	26.4	5.7	13.1
Shortleaf pine-oak	249.3	97.0	--	10.9	--	14.5	36.4	5.6	84.9
Post-blackjack oak	566.2	54.3	--	12.4	--	32.4	167.4	29.0	270.7
Black-scarlet oak	1,899.1	402.6	11.7	115.5	--	104.5	357.5	139.6	767.7
White oak	1,001.7	224.1	11.8	42.0	--	28.1	245.3	77.2	373.2
Oak-gum-cypress	9.7	--	--	3.1	--	--	4.4	--	2.2
Elm-ash-soft maple	48.4	--	7.5	--	--	--	26.4	1.6	12.9
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	129.5	11.6	5.0	2.4	--	--	48.7	20.4	41.4
Nonstocked	3.8	--	--	--	--	--	3.8	--	--
All types	4,110.0	873.8	41.1	197.1	--	184.3	934.9	289.4	1,589.4
Southwest Ozarks Unit									
Shortleaf pine	62.5	26.1	--	2.4	--	5.4	21.5	--	7.1
Eastern redcedar	53.7	4.0	--	4.1	--	--	28.1	4.3	13.2
E. redcedar-hardwood	179.3	24.1	--	5.1	--	--	81.5	6.1	62.5
Shortleaf pine-oak	109.8	39.2	--	2.8	--	10.6	37.3	--	19.9
Post-blackjack oak	633.0	34.1	2.8	13.6	2.6	--	327.0	16.1	236.8
Black-scarlet oak	995.3	96.7	8.7	8.1	2.5	5.8	478.5	36.2	358.8
White oak	342.3	52.5	5.2	--	--	5.6	142.6	19.4	117.0
Oak-gum-cypress	--	--	--	--	--	--	--	--	--
Elm-ash-soft maple	23.9	--	--	--	--	--	23.9	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	93.1	17.3	--	2.0	--	3.0	61.9	4.0	4.9
Nonstocked	5.3	--	--	--	--	--	2.9	--	2.4
All types	2,498.2	294.0	16.7	38.1	5.1	30.4	1,205.2	86.1	822.6

(Table 8 continued on next page)

(Table 8 continued)

Forest type	All owners	Ownership class: National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Northwest Ozarks Unit									
Shortleaf pine	32.0	25.0	3.5	3.5	--	--	--	--	--
Eastern redcedar	52.3	--	--	--	--	--	27.3	--	25.0
E. redcedar-hardwood	78.0	--	4.1	--	--	--	32.4	3.6	37.9
Shortleaf pine-oak	4.1	4.1	--	--	--	--	--	--	--
Post-blackjack oak	697.3	19.8	29.3	--	--	--	293.4	20.8	334.0
Black-scarlet oak	812.0	52.9	26.5	22.9	--	--	269.0	40.3	400.4
White oak	373.5	33.3	20.1	--	2.9	--	120.5	14.5	182.2
Oak-gum-cypress	3.5	--	--	--	--	--	1.6	--	1.9
Elm-ash-soft maple	39.2	--	9.4	--	--	--	16.5	3.4	9.9
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	77.7	--	9.1	--	--	--	39.9	11.3	17.4
Nonstocked	--	--	--	--	--	--	--	--	--
All types	2,169.6	135.1	102.0	26.4	2.9	--	800.6	93.9	1,008.7
Prairie Unit									
Shortleaf pine	--	--	--	--	--	--	--	--	--
Eastern redcedar	13.6	--	--	--	--	--	3.2	3.3	7.1
E. redcedar-hardwood	20.4	--	3.5	--	--	--	9.5	--	7.4
Shortleaf pine-oak	--	--	--	--	--	--	--	--	--
Post-blackjack oak	210.2	--	6.2	6.3	--	--	99.0	30.6	68.1
Black-scarlet oak	687.1	--	24.5	14.0	8.7	--	323.3	73.4	243.2
White oak	584.9	--	11.1	13.1	6.8	--	302.2	33.7	218.0
Oak-gum-cypress	81.2	--	3.4	--	--	--	43.7	9.1	25.0
Elm-ash-soft maple	348.4	--	18.1	7.7	7.8	--	175.0	47.2	92.6
Cottonwood	20.8	--	2.8	--	--	--	11.4	1.3	5.3
Maple-beech	528.4	--	8.0	12.6	2.5	--	259.4	74.1	171.8
Nonstocked	5.3	--	--	--	--	--	5.3	--	--
All types	2,500.3	--	77.6	53.7	25.8	--	1,232.0	272.7	838.5
Riverborder Unit									
Shortleaf pine	5.2	--	--	--	--	--	--	--	5.2
Eastern redcedar	87.2	--	--	--	--	--	34.2	2.3	50.7
E. redcedar-hardwood	160.2	--	--	4.0	--	--	63.2	19.5	73.5
Shortleaf pine-oak	7.6	--	--	--	--	--	7.6	--	--
Post-blackjack oak	323.8	--	--	--	--	--	105.4	44.6	173.8
Black-scarlet oak	518.7	12.2	--	32.6	2.5	5.2	210.5	47.7	208.0
White oak	649.7	4.6	--	9.7	--	--	270.0	49.0	316.4
Oak-gum-cypress	22.9	--	6.0	10.4	--	--	1.5	--	5.0
Elm-ash-soft maple	137.8	--	2.9	21.0	1.9	2.5	73.8	12.8	22.9
Cottonwood	8.5	--	--	--	2.8	--	2.7	--	3.0
Maple-beech	167.0	1.2	--	9.5	--	--	82.2	10.9	63.2
Nonstocked	4.1	--	--	--	1.2	--	--	--	2.9
All types	2,092.7	18.0	8.9	87.2	8.4	7.7	851.1	186.8	924.6

Table 9.--Area of timberland by forest type, stand-size class, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Unit and forest type	All stands	Stand-size class			
		Sawtimber	Poletimber	Seedling & Sapling	Nonstocked
All Units					
Shortleaf pine	232.8	140.3	80.6	11.9	--
Eastern redcedar	225.0	68.5	41.6	114.9	--
E. redcedar-hardwood	488.9	156.4	164.9	167.6	--
Shortleaf pine-oak	370.8	196.4	120.8	53.6	--
Post-blackjack oak	2,430.5	837.3	963.0	630.2	--
Black-scarlet oak	4,912.2	2,485.6	1,356.1	1,070.5	--
White oak	2,952.1	1,769.3	752.9	429.9	--
Oak-gum-cypress	117.3	88.8	25.1	3.4	--
Elm-ash-soft maple	597.7	440.3	97.6	59.8	--
Cottonwood	29.3	29.3	--	--	--
Maple-beech	995.7	392.4	274.4	328.9	--
Nonstocked	18.5	--	--	--	18.5
All types	13,370.8	6,604.6	3,877.0	2,870.7	18.5
Eastern Ozarks Unit					
Shortleaf pine	133.1	93.2	30.7	9.2	--
Eastern redcedar	18.2	11.2	--	7.0	--
E. redcedar-hardwood	51.0	12.0	20.3	18.7	--
Shortleaf pine-oak	249.3	142.1	74.4	32.8	--
Post-blackjack oak	566.2	215.5	175.4	175.3	--
Black-scarlet oak	1,899.1	946.1	508.5	444.5	--
White oak	1,001.7	498.1	277.6	226.0	--
Oak-gum-cypress	9.7	3.1	6.6	--	--
Elm-ash-soft maple	48.4	38.1	3.3	7.0	--
Cottonwood	--	--	--	--	--
Maple-beech	129.5	25.0	34.3	70.2	--
Nonstocked	3.8	--	--	--	3.8
All types	4,110.0	1,984.4	1,131.1	990.7	3.8
Southwest Ozarks Unit					
Shortleaf pine	62.5	40.7	19.1	2.7	--
Eastern redcedar	53.7	9.2	12.2	32.3	--
E. redcedar-hardwood	179.3	27.4	80.5	71.4	--
Shortleaf pine-oak	109.8	44.4	44.6	20.8	--
Post-blackjack oak	633.0	253.3	191.4	188.3	--
Black-scarlet oak	995.3	485.0	271.6	238.7	--
White oak	342.3	187.1	91.5	63.7	--
Oak-gum-cypress	--	--	--	--	--
Elm-ash-soft maple	23.9	20.1	3.8	--	--
Cottonwood	--	--	--	--	--
Maple-beech	93.1	19.0	26.8	47.3	--
Nonstocked	5.3	--	--	--	5.3
All types	2,498.2	1,086.2	741.5	665.2	5.3

(Table 9 continued on next page)

(Table 9 continued)

Unit and forest type	All stands	Stand-size class			
		Sawtimber	Poletimber	Seedling & Sapling	Nonstocked
Northwest Ozarks Unit					
Shortleaf pine	32.0	6.4	25.6	--	--
Eastern redcedar	52.3	5.4	7.8	39.1	--
E. redcedar-hardwood	78.0	36.5	23.8	17.7	--
Shortleaf pine-oak	4.1	2.3	1.8	--	--
Post-blackjack oak	697.3	202.1	316.0	179.2	--
Black-scarlet oak	812.0	409.2	213.2	189.6	--
White oak	373.5	249.8	80.3	43.4	--
Oak-gum-cypress	3.5	1.6	--	1.9	--
Elm-ash-soft maple	39.2	30.9	4.7	3.6	--
Cottonwood	--	--	--	--	--
Maple-beech	77.7	21.7	28.8	27.2	--
Nonstocked	--	--	--	--	--
All types	2,169.6	965.9	702.0	501.7	--
Prairie Unit					
Shortleaf pine	--	--	--	--	--
Eastern redcedar	13.6	--	5.3	8.3	--
E. redcedar-hardwood	20.4	3.7	3.5	13.2	--
Shortleaf pine-oak	--	--	--	--	--
Post-blackjack oak	210.2	45.5	118.2	46.5	--
Black-scarlet oak	687.1	343.0	202.1	142.0	--
White oak	584.9	335.1	184.9	64.9	--
Oak-gum-cypress	81.2	65.2	16.0	--	--
Elm-ash-soft maple	348.4	228.3	80.0	40.1	--
Cottonwood	20.8	20.8	--	--	--
Maple-beech	528.4	232.4	143.9	152.1	--
Nonstocked	5.3	--	--	--	5.3
All types	2,500.3	1,274.0	753.9	467.1	5.3
Riverborder Unit					
Shortleaf pine	5.2	--	5.2	--	--
Eastern redcedar	87.2	42.7	16.3	28.2	--
E. redcedar-hardwood	160.2	76.8	36.8	46.6	--
Shortleaf pine-oak	7.6	7.6	--	--	--
Post-blackjack oak	323.8	120.9	162.0	40.9	--
Black-scarlet oak	518.7	302.3	160.7	55.7	--
White oak	649.7	499.2	118.6	31.9	--
Oak-gum-cypress	22.9	18.9	2.5	1.5	--
Elm-ash-soft maple	137.8	122.9	5.8	9.1	--
Cottonwood	8.5	8.5	--	--	--
Maple-beech	167.0	94.3	40.6	32.1	--
Nonstocked	4.1	--	--	--	4.1
All types	2,092.7	1,294.1	548.5	246.0	4.1

Table 10.--Number of all live trees on timberland by species group and diameter class, Missouri, 1989

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods													
White pine	1,677	--	285	296	350	208	364	146	28	--	--	--	--
Shortleaf pine	162,582	37,653	35,782	35,709	24,195	14,686	8,435	4,165	1,390	409	148	9	1
Other yellow pines	425	75	75	--	171	104	--	--	--	--	--	--	--
Baldcypress	479	120	--	84	27	27	--	30	39	58	16	74	4
Eastern redcedar	383,415	226,326	88,530	39,635	17,570	6,961	2,695	1,195	362	105	20	16	--
Other softwoods	303	141	--	49	113	--	--	--	--	--	--	--	--
Total	548,881	264,315	124,672	75,773	42,426	21,986	11,494	5,536	1,819	572	184	99	5
Hardwoods													
Select white oak	866,686	337,786	187,552	115,044	74,834	56,631	37,981	25,845	15,650	7,935	3,545	3,543	340
Other white oak	656,030	257,843	156,127	98,740	63,496	34,795	20,851	12,413	6,598	2,737	1,301	1,079	50
Select red oak	89,363	27,831	18,500	9,669	7,839	7,503	6,474	4,076	3,112	1,904	1,033	1,260	162
Other red oak	1,160,175	504,370	240,238	141,338	95,356	68,204	46,491	30,762	16,914	8,091	4,020	4,065	326
Select hickory	424,279	243,789	82,175	46,818	25,627	12,651	6,857	3,390	1,725	679	280	273	15
Other hickory	673,029	436,894	131,427	51,027	26,900	14,049	7,387	3,276	1,323	476	199	71	--
Basswood	9,562	5,539	1,806	529	442	479	222	230	128	65	54	61	7
Beech	811	639	102	26	--	--	5	7	14	6	3	7	2
Hard maple	150,962	103,390	26,774	9,439	5,069	2,942	1,558	973	407	201	115	80	14
Soft maple	132,178	95,846	18,608	7,361	2,820	2,460	1,608	1,152	612	683	329	569	130
Elm	639,926	447,698	119,357	44,095	16,766	6,512	3,196	1,345	511	230	74	139	3
Ash	213,252	126,721	42,353	20,810	10,674	5,379	3,713	1,883	950	380	195	181	13
Sycamore	23,766	8,772	4,358	2,192	2,061	1,642	1,544	912	669	665	303	544	104
Cottonwood	6,432	1,632	472	365	571	531	528	574	341	262	250	620	286
Willow	16,317	7,417	1,679	2,103	1,287	631	974	797	556	392	244	229	8
Hackberry	114,494	71,112	18,532	11,892	5,265	3,363	1,921	1,269	505	317	167	135	16
Aspen	112	81	--	--	--	31	--	--	--	--	--	--	--
Birch	7,226	1,836	1,315	1,366	890	731	414	251	180	105	45	77	16
Sweetgum	4,209	2,073	944	401	206	363	75	16	79	19	22	11	--
Tupelo	121,689	95,832	16,695	4,303	1,841	1,010	859	538	244	178	90	94	5
Black cherry	80,643	54,864	15,193	5,546	2,751	1,225	506	251	162	91	24	30	--
Black walnut	83,025	26,459	16,538	11,668	11,550	7,512	4,356	2,486	1,376	689	222	162	7
Butternut	2,042	981	577	231	39	48	119	16	22	5	4	--	--
Yellow-poplar	1,311	864	195	24	95	25	68	19	3	3	10	1	4
Persimmon	101,747	75,478	19,766	5,162	1,076	175	52	29	--	9	--	--	--
Sassafras	219,698	187,332	25,070	5,557	1,209	276	151	47	14	29	--	13	--
Other hardwoods	694,059	535,420	109,740	24,752	9,876	6,603	3,645	1,713	1,072	588	316	308	26
Noncommercial sp.	297,658	237,129	42,031	12,103	3,919	1,513	473	225	102	78	30	50	5
Total	6,790,681	3,895,628	1,298,124	632,561	372,459	237,284	152,028	94,495	53,269	26,817	12,875	13,602	1,539
All species	7,339,562	4,159,943	1,422,796	708,334	414,885	259,270	163,522	100,031	55,088	27,389	13,059	13,701	1,544

Table 11.--Number of growing-stock trees on timberland by species group and diameter class, Missouri, 1989

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods													
White pine	1,677	--	285	296	350	208	364	146	28	--	--	--	--
Shortleaf pine	155,772	37,133	33,882	33,537	22,828	14,391	8,116	3,975	1,365	393	148	3	1
Other yellow pines	410	75	75	--	171	89	--	--	--	--	--	--	--
Baldcypress	378	120	--	36	27	16	--	19	23	52	12	69	4
Eastern redcedar	366,595	226,126	83,312	34,662	14,286	5,302	1,873	751	185	83	8	7	--
Other softwoods	254	141	--	--	113	--	--	--	--	--	--	--	--
Total	525,086	263,595	117,554	68,531	37,775	20,006	10,353	4,891	1,601	528	168	79	5
Hardwoods													
Select white oak	715,234	318,961	156,695	88,976	52,438	38,566	24,842	17,141	10,047	4,514	1,733	1,265	56
Other white oak	517,314	244,035	122,003	68,720	42,437	20,505	10,656	5,593	2,339	704	244	73	5
Select red oak	67,730	25,571	14,788	6,611	5,699	4,916	4,081	2,493	1,628	894	461	538	50
Other red oak	963,477	497,382	191,004	99,268	65,742	44,493	29,708	18,739	9,840	4,123	1,766	1,325	87
Select hickory	359,509	218,984	68,286	36,448	18,486	8,709	4,535	2,155	1,175	425	156	147	3
Other hickory	588,025	411,121	106,218	35,976	17,874	9,071	4,513	1,966	862	303	85	36	--
Basswood	6,961	5,199	918	149	159	151	90	139	72	36	41	7	--
Beech	640	582	21	26	--	--	5	--	--	4	1	1	--
Hard maple	130,841	100,660	20,190	5,377	2,118	1,232	654	414	122	35	28	8	3
Soft maple	110,571	89,003	12,783	3,642	1,385	1,192	751	644	323	380	170	273	25
Elm	533,853	422,458	80,209	21,028	5,919	2,312	1,165	420	217	88	3	34	--
Ash	161,976	116,902	25,891	8,685	4,488	2,468	1,841	894	486	157	82	72	10
Sycamore	19,517	8,772	3,157	1,673	1,191	1,320	1,079	692	439	515	250	372	57
Cottonwood	5,240	1,632	222	266	468	417	377	463	261	224	213	498	199
Willow	9,487	4,697	1,002	962	719	234	455	479	345	276	177	140	1
Hackberry	93,651	68,518	11,748	6,706	2,692	1,923	913	536	267	206	91	51	--
Aspen	112	81	--	--	--	31	--	--	--	--	--	--	--
Birch	5,608	1,836	624	1,266	580	539	343	213	98	69	14	26	--
Sweetgum	3,724	2,073	743	324	85	323	50	8	72	15	21	10	--
Tupelo	115,775	95,832	14,370	3,090	975	619	423	251	108	72	8	25	2
Black cherry	65,027	53,874	7,799	1,990	598	446	129	62	84	26	12	7	--
Black walnut	50,895	24,279	9,312	5,218	4,584	3,482	1,938	1,179	491	282	94	36	--
Butternut	1,379	981	213	83	39	21	27	--	15	--	--	--	--
Yellow-poplar	1,225	864	195	24	42	9	57	13	3	3	10	1	4
Persimmon	88,087	72,981	12,204	2,452	396	37	--	17	--	--	--	--	--
Sassafras	199,906	184,195	13,620	1,617	392	12	58	12	--	--	--	--	--
Other hardwoods	585,898	517,688	54,609	7,585	2,392	1,773	853	462	248	163	71	52	2
Noncommercial sp.	6,945	6,696	249	--	--	--	--	--	--	--	--	--	--
Total	5,408,607	3,495,857	929,073	408,162	231,898	144,801	89,543	54,985	29,542	13,514	5,731	4,997	504
All species	5,933,693	3,759,452	1,046,627	476,693	269,673	164,807	99,896	59,876	31,143	14,042	5,899	5,076	509

Table 12.--Net volume of timber on timberland by class of timber and species group, Missouri, 1989

(In thousand cubic feet)

Class of timber	All species	Species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Live trees					
Growing-stock trees					
Sawtimber					
Saw log portion	4,474,659	384,459	84,991	540,349	3,464,860
Upper stem portion	859,718	51,526	12,261	68,424	727,507
Total	5,334,377	435,985	97,252	608,773	4,192,367
Poletimber	3,654,190	198,436	127,731	236,094	3,091,929
All growing-stock trees	8,988,567	634,421	224,983	844,867	7,284,296
Cull trees					
Short-log trees	787,372	3,768	5,756	84,081	693,767
Rough trees					
Sawtimber	1,818,682	5,726	26,201	172,406	1,614,349
Poletimber	1,505,141	7,913	21,917	192,033	1,283,278
Total	3,323,823	13,639	48,118	364,439	2,897,627
Rotten trees					
Sawtimber	632,341	1,045	2,085	70,477	558,734
Poletimber	113,302	1,020	411	11,223	100,648
Total	745,643	2,065	2,496	81,700	659,382
All cull trees	4,856,838	19,472	56,370	530,220	4,250,776
All live trees	13,845,405	653,893	281,353	1,375,087	11,535,072
Salvable dead trees					
Sawtimber	41,872	2,364	407	4,384	34,717
Poletimber	29,712	1,574	1,404	5,048	21,686
Total	71,584	3,938	1,811	9,432	56,403
All classes	13,916,989	657,831	283,164	1,384,519	11,591,475

Table 13.--Net volume of growing stock on timberland by species group and diameter class, Missouri, 1989

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods											
White pine	13,843	935	1,528	1,836	5,660	3,048	836	--	--	--	--
Shortleaf pine	618,365	77,702	116,914	134,912	125,041	91,390	45,051	18,109	8,814	214	218
Other yellow pines	1,751	--	895	856	--	--	--	--	--	--	--
Baldcypress	12,717	54	63	145	--	389	680	2,338	726	7,325	997
Eastern redcedar	212,266	67,843	59,771	40,582	22,761	13,323	4,595	2,629	358	404	--
Other softwoods	462	--	462	--	--	--	--	--	--	--	--
Total	859,404	146,534	179,633	178,331	153,462	108,150	51,162	23,076	9,898	7,943	1,215
Hardwoods											
Select white oak	2,210,089	202,350	259,577	345,418	359,597	367,169	301,232	180,602	90,098	95,526	8,520
Other white oak	878,686	149,345	195,151	170,343	143,382	111,802	64,542	26,488	11,734	5,356	543
Select red oak	375,435	16,211	30,920	46,539	62,058	54,611	50,286	37,367	24,918	43,210	9,315
Other red oak	2,450,398	223,868	322,599	395,612	429,015	403,553	296,631	165,800	94,659	103,837	14,824
Select hickory	459,721	81,819	92,532	82,401	70,262	50,900	39,765	19,281	9,390	12,820	551
Other hickory	422,871	77,485	88,853	86,060	71,329	47,177	29,854	14,078	4,848	3,187	--
Basswood	14,392	338	935	1,484	1,479	3,185	2,395	1,575	2,373	628	--
Beech	513	62	--	--	104	--	--	202	71	74	--
Hard maple	66,714	13,159	11,600	12,422	10,693	10,324	4,182	1,534	1,644	679	477
Soft maple	123,649	9,224	7,298	12,009	12,205	15,713	10,969	17,034	9,871	24,655	4,671
Elm	124,681	41,074	26,455	18,828	16,110	8,376	6,845	3,517	158	3,318	--
Ash	146,484	18,914	21,991	22,626	27,598	20,330	15,659	6,780	5,048	6,047	1,491
Sycamore	180,928	4,915	7,381	15,016	18,990	18,218	17,203	27,207	17,765	39,255	14,978
Cottonwood	159,145	771	2,722	4,383	6,584	11,676	9,394	10,755	13,168	51,740	47,952
Willow	79,522	2,582	4,521	2,559	7,479	12,203	12,439	13,878	11,198	12,437	226
Hackberry	91,834	13,966	12,384	15,978	12,995	11,498	8,030	8,111	4,981	3,891	--
Aspen	393	--	--	393	--	--	--	--	--	--	--
Birch	29,126	2,806	2,738	4,800	5,192	4,804	2,843	3,075	845	2,023	--
Sweetgum	10,067	624	397	3,243	697	188	2,283	669	1,218	748	--
Tupelo	36,122	6,039	4,008	5,242	5,988	5,580	3,557	2,953	449	1,977	329
Black cherry	18,947	3,881	2,798	3,736	1,754	1,461	2,847	1,072	649	749	--
Black walnut	147,241	11,858	22,137	29,602	26,571	24,502	14,400	11,050	4,792	2,329	--
Butternut	1,264	190	170	147	335	--	422	--	--	--	--
Yellow-poplar	3,923	78	224	101	1,083	367	98	149	682	193	948
Persimmon	6,739	4,485	1,603	308	--	343	--	--	--	--	--
Sassafras	5,717	2,856	1,616	122	836	287	--	--	--	--	--
Other hardwoods	84,562	13,501	10,690	14,950	12,077	9,849	8,088	6,929	4,017	4,165	296
Total	8,129,163	902,401	1,131,300	1,294,322	1,304,413	1,194,116	903,964	560,106	314,576	418,844	105,121
All species	8,988,567	1,048,935	1,310,933	1,472,653	1,457,875	1,302,266	955,126	583,182	324,474	426,787	106,336

Table 14.--Net volume of growing stock in the saw-log portion of sawtimber trees on timberland by species group and diameter class, Missouri, 1989

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	10,028	1,458	5,000	2,784	786	--	--	--	--
Shortleaf pine	373,728	109,562	110,771	84,353	42,648	17,417	8,553	209	215
Other yellow pines	703	703	--	--	--	--	--	--	--
Baldcypress	12,261	118	--	355	641	2,248	706	7,201	992
Eastern redcedar	72,730	32,866	20,051	12,241	4,326	2,508	345	393	--
Other softwoods	--	--	--	--	--	--	--	--	--
Total	469,450	144,707	135,822	99,733	48,401	22,173	9,604	7,803	1,207
Hardwoods									
Select white oak	1,169,366	--	262,330	300,064	261,903	162,920	83,298	90,566	8,285
Other white oak	285,064	--	100,601	89,289	55,165	23,666	10,761	5,057	525
Select red oak	244,163	--	46,900	45,353	44,270	34,064	23,215	41,243	9,118
Other red oak	1,253,826	--	313,528	330,824	258,511	149,931	87,800	98,742	14,490
Select hickory	163,975	--	49,669	41,127	34,431	17,356	8,689	12,166	537
Other hickory	135,799	--	51,165	38,390	26,012	12,720	4,482	3,030	--
Basswood	10,243	--	1,151	2,683	2,134	1,443	2,230	602	--
Beech	408	--	85	--	--	186	66	71	--
Hard maple	24,096	--	7,873	8,549	3,648	1,388	1,528	648	462
Soft maple	84,204	--	8,988	12,940	9,590	15,428	9,168	23,517	4,573
Elm	30,373	--	11,310	6,633	5,951	3,156	144	3,179	--
Ash	68,128	--	19,913	16,587	13,619	6,127	4,695	5,737	1,450
Sycamore	138,883	--	14,305	15,216	15,303	24,989	16,677	37,657	14,736
Cottonwood	142,981	--	5,173	9,946	8,422	9,926	12,381	49,898	47,235
Willow	60,089	--	5,115	9,710	10,646	12,429	10,272	11,698	219
Hackberry	40,984	--	9,231	9,284	6,921	7,270	4,604	3,674	--
Aspen	--	--	--	--	--	--	--	--	--
Birch	15,315	--	3,625	3,847	2,401	2,754	781	1,907	--
Sweetgum	5,002	--	474	152	1,958	598	1,120	700	--
Tupelo	16,782	--	4,067	4,431	3,066	2,622	411	1,866	319
Black cherry	7,092	--	1,174	1,182	2,471	957	593	715	--
Black walnut	66,622	--	18,368	19,500	12,328	9,859	4,391	2,176	--
Butternut	565	--	212	--	353	--	--	--	--
Yellow-poplar	3,151	--	850	315	88	137	641	188	932
Persimmon	267	--	--	267	--	--	--	--	--
Sassafras	805	--	573	232	--	--	--	--	--
Other hardwoods	37,026	--	8,209	7,758	6,945	6,193	3,703	3,931	287
Total	4,005,209	--	944,889	974,279	786,136	506,119	291,650	398,968	103,168
All species	4,474,659	144,707	1,080,711	1,074,012	834,537	528,292	301,254	406,771	104,375

Table 15.--Net volume of sawtimber on timberland by species group and diameter class, Missouri, 1989

(In thousand board feet) [1]

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	54,123	8,446	26,882	14,696	4,099	--	--	--	--
Shortleaf pine	2,182,900	673,773	642,043	478,988	239,833	97,806	48,113	1,162	1,182
Other yellow pines	4,219	4,219	--	--	--	--	--	--	--
Baldcypress	61,836	607	--	1,740	3,159	11,110	3,506	37,003	4,711
Eastern redcedar	443,037	224,373	117,553	64,983	21,272	11,661	1,517	1,678	--
Other softwoods	--	--	--	--	--	--	--	--	--
Total	2,746,115	911,418	786,478	560,407	268,363	120,577	53,136	39,843	5,893
Hardwoods									
Select white oak	6,663,522	--	1,763,534	1,771,458	1,427,165	839,499	410,537	417,874	33,455
Other white oak	1,795,097	--	710,530	551,501	318,389	129,717	56,957	25,605	2,398
Select red oak	1,389,537	--	307,595	272,890	251,669	186,357	123,415	207,882	39,729
Other red oak	7,435,836	--	2,127,442	2,005,880	1,472,217	817,194	461,423	490,851	60,829
Select hickory	983,474	--	339,671	246,577	192,889	93,641	45,570	62,322	2,804
Other hickory	846,489	--	353,712	234,399	148,507	70,035	24,103	15,733	--
Basswood	57,911	--	7,472	16,037	11,970	7,807	11,620	3,005	--
Beech	2,228	--	527	--	--	997	346	358	--
Hard maple	140,069	--	50,939	49,285	19,951	7,247	7,735	2,948	1,964
Soft maple	410,973	--	53,012	68,804	48,183	74,793	43,148	105,542	17,491
Elm	174,714	--	75,358	38,550	31,100	15,589	679	13,438	--
Ash	384,050	--	124,881	94,181	73,692	32,232	24,089	28,557	6,418
Sycamore	707,601	--	84,745	83,220	80,455	128,885	84,974	185,178	60,144
Cottonwood	728,138	--	31,261	56,498	46,841	54,487	67,591	263,803	207,657
Willow	317,166	--	33,996	55,968	57,259	63,869	50,915	54,318	841
Hackberry	222,899	--	60,361	52,978	36,262	35,663	21,499	16,136	--
Aspen	--	--	--	--	--	--	--	--	--
Birch	85,266	--	23,806	22,014	12,996	13,895	3,758	8,797	--
Sweetgum	26,234	--	3,221	860	10,383	3,044	5,442	3,284	--
Tupelo	94,877	--	27,672	25,649	16,243	13,445	2,020	8,564	1,284
Black cherry	38,837	--	8,132	6,755	12,953	4,893	2,913	3,191	--
Black walnut	398,282	--	127,346	117,740	68,427	52,038	22,309	10,422	--
Butternut	3,494	--	1,568	--	1,926	--	--	--	--
Yellow-poplar	17,282	--	5,280	1,907	518	768	3,508	995	4,306
Persimmon	1,566	--	--	1,566	--	--	--	--	--
Sassafras	5,196	--	3,870	1,326	--	--	--	--	--
Other hardwoods	206,769	--	55,791	45,408	36,993	31,404	17,919	18,083	1,171
Total	23,137,507	--	6,381,722	5,821,451	4,376,988	2,677,499	1,492,470	1,946,886	440,491
All species	25,883,622	911,418	7,168,200	6,381,858	4,645,351	2,798,076	1,545,606	1,986,729	446,384

[1] International 1/4-inch rule.

Table 16.--Net volume of growing stock and sawtimber on timberland by county and major species group, Missouri, 1989

Unit and County	Growing stock					Sawtimber				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Thousand cubic feet					*Thousand board feet*[1]				
Eastern Ozarks										
Bollinger	158,538	5,072	--	6,837	146,629	439,787	14,573	--	15,356	409,858
Butler	116,203	24,656	--	4,879	86,668	351,975	90,714	--	13,916	247,345
Carter	195,855	53,255	138	5,209	137,253	544,027	178,513	--	19,980	345,534
Crawford	215,261	813	1,165	16,024	197,259	607,439	--	3,168	58,096	546,175
Dent	196,419	25,837	259	3,531	166,792	522,840	83,209	--	8,977	430,654
Iron	231,430	18,881	2,074	2,919	207,556	593,160	78,029	6,399	5,255	503,477
Madison	184,533	23,174	2,489	15,202	143,668	515,444	81,641	7,216	53,090	373,497
Oregon	190,348	20,574	539	4,952	164,283	566,936	78,284	1,959	14,003	472,690
Reynolds	348,910	56,890	1,193	5,689	285,138	1,029,240	224,572	3,713	6,567	794,388
Ripley	214,681	38,476	373	18,352	157,480	667,127	178,044	--	46,767	442,316
St. Francois	98,435	39	4,308	2,920	91,168	297,506	--	6,258	7,153	284,095
Shannon	356,707	64,094	841	3,537	288,235	1,001,356	240,349	1,959	7,523	751,525
Washington	273,757	41,549	6,285	8,276	217,647	725,336	157,047	9,684	24,405	534,200
Wayne	307,198	41,212	2,822	6,585	256,579	872,248	150,459	8,748	14,264	698,777
Total	3,088,275	414,522	22,486	104,912	2,546,355	8,734,421	1,555,434	49,104	295,352	6,834,531
Southwest Ozarks										
Barry	121,634	2,548	7,110	3,393	108,583	322,427	3,503	6,117	3,786	309,021
Christian	81,034	659	1,186	3,378	75,811	232,921	3,413	--	9,173	220,335
Douglas	196,231	29,642	1,465	7,945	157,179	558,644	128,898	1,552	21,660	406,534
Howell	180,266	30,105	720	1,005	148,436	495,889	98,839	526	1,497	395,027
McDonald	109,281	655	701	2,870	105,055	326,252	3,057	2,130	5,112	315,953
Newton	59,388	--	99	2,915	56,374	154,282	--	--	4,904	149,378
Ozark	132,009	17,303	8,849	5,714	100,143	326,617	49,106	16,606	16,582	244,323
Stone	57,385	1,060	4,882	759	50,684	138,035	2,486	5,840	1,685	128,024
Taney	90,793	3,510	20,478	3,328	63,477	189,239	3,910	18,459	8,566	158,304
Texas	241,684	67,471	1,226	6,270	166,717	667,262	250,609	2,755	14,681	399,217
Webster	65,256	--	688	587	63,981	171,950	--	--	--	171,950
Wright	76,930	516	914	3,417	72,083	177,082	--	1,269	6,961	168,852
Total	1,411,891	153,469	48,318	41,581	1,168,523	3,760,600	543,821	55,254	94,607	3,066,918
Northwest Ozarks										
Benton	91,779	--	2,194	3,744	85,841	213,013	--	3,482	11,137	198,394
Camden	131,621	--	2,572	1,333	127,716	413,360	--	10,403	2,545	400,412
Cedar	53,106	--	488	4,538	48,080	122,260	--	--	14,036	108,224
Dallas	78,237	--	1,162	6,056	71,019	218,107	--	1,206	21,387	195,514
Hickory	31,557	--	4,322	4,180	23,055	73,304	--	6,879	16,075	50,350
Laclede	107,300	6,761	1,969	3,085	95,485	236,329	2,639	961	8,123	224,606
Maries	70,887	5,027	3,314	5,795	56,751	170,463	10,957	4,216	9,307	145,983
Miller	102,715	--	3,651	4,279	94,785	298,067	--	5,183	14,652	278,232
Morgan	99,531	--	1,875	1,298	96,358	270,212	--	2,012	5,198	263,002
Phelps	147,140	22,081	2,421	5,237	117,401	320,811	31,111	6,055	20,738	262,907
Polk	54,119	--	5,864	1,988	46,267	121,284	--	2,420	2,386	116,478
Pulaski	116,468	10,053	1,250	12,843	92,322	282,191	19,465	--	43,821	218,905
St. Clair	68,167	--	1,056	7,666	59,445	166,848	--	3,720	25,598	137,530
Total	1,152,627	43,922	32,138	62,042	1,014,525	2,906,249	64,172	46,537	195,003	2,600,537
Prairie Unit										
Adair	41,411	--	--	6,919	34,492	88,668	--	--	21,055	67,613
Andrew	2,778	--	--	1,458	1,320	9,018	--	--	6,497	2,521
Atchison	6,821	--	--	1,991	4,830	20,935	--	--	3,777	17,158
Audrain	31,102	--	--	7,358	23,744	88,783	--	--	25,783	63,000
Barton	16,556	--	244	2,966	13,346	48,809	--	--	10,974	37,835
Bates	20,989	--	--	6,415	14,574	70,748	--	--	21,519	49,229
Buchanan	14,186	--	--	6,151	8,035	48,399	--	--	23,400	24,999
Caldwell	12,824	--	--	7,145	5,679	36,148	--	--	29,362	6,786
Carroll	21,643	--	190	10,886	10,567	58,489	--	--	20,231	38,258
Cass	30,058	--	--	7,646	22,412	106,449	--	--	28,123	78,326
Chariton	47,072	--	--	13,551	33,521	158,009	--	--	36,056	121,953
Clark	40,180	--	694	2,410	37,076	119,151	--	1,512	5,886	111,753
Clay	16,387	--	--	6,697	9,690	57,440	--	--	24,746	32,694
Clinton	5,595	--	--	1,614	3,981	18,863	--	--	5,357	13,506
Cooper	42,253	--	799	10,476	30,978	121,174	--	2,913	35,794	82,467

(Table 16 continued on next page)

(Table 16 continued)

Unit and County	Growing stock					Sawtimber				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Thousand cubic feet					Thousand board feet[1]				
Prairie Unit, cont.										
Dade	19,096	--	446	3,551	15,099	42,116	--	663	9,806	31,647
Daviess	37,197	--	--	13,025	24,172	121,730	--	--	53,119	68,611
De Kalb	13,292	--	--	3,925	9,367	38,591	--	--	12,927	25,664
Gentry	18,057	--	71	1,194	16,792	26,742	--	--	3,726	23,016
Greene	43,565	--	711	2,848	40,006	127,343	--	948	7,879	118,516
Grundy	11,480	--	--	3,168	8,312	34,477	--	--	7,257	27,220
Harrison	34,758	--	--	10,858	23,900	101,752	--	--	38,543	63,209
Henry	40,131	--	314	13,549	26,268	122,038	--	910	38,067	83,061
Holt	9,504	--	--	3,666	5,838	33,028	--	--	14,627	18,401
Jackson	17,392	--	--	7,725	9,667	48,664	--	--	25,071	23,593
Jasper	25,571	--	--	4,795	20,776	79,203	--	--	8,169	71,034
Johnson	38,573	--	--	6,814	31,759	110,849	--	--	20,809	90,040
Knox	25,395	--	568	8,862	15,965	83,204	--	941	32,161	50,102
Lafayette	11,392	--	--	3,919	7,473	34,579	--	--	16,968	17,611
Lawrence	41,377	--	279	1,336	39,762	125,520	--	--	4,950	120,570
Lewis	58,303	--	732	4,105	53,466	171,269	--	2,825	7,867	160,577
Lincoln	87,583	--	320	13,817	73,446	301,463	--	920	59,532	241,011
Linn	14,418	--	--	4,616	9,802	41,025	--	--	13,407	27,618
Livingston	19,555	--	152	5,926	13,477	58,289	--	--	19,069	39,220
Macon	66,790	--	--	30,255	36,535	214,170	--	--	110,219	103,951
Marion	49,420	--	--	16,397	33,023	150,869	--	--	68,207	82,662
Mercer	31,336	--	--	12,233	19,103	127,036	--	--	53,644	73,392
Monroe	44,593	--	--	7,017	37,576	127,652	--	--	18,793	108,859
Nodaway	24,284	--	211	12,845	11,228	75,942	--	--	42,768	33,174
Pettis	34,301	--	348	6,035	27,918	107,963	--	--	17,146	90,817
Pike	82,107	--	362	13,874	67,871	255,225	--	726	49,628	204,871
Platte	22,692	--	--	7,370	15,322	60,262	--	--	22,528	37,734
Putnam	29,577	--	--	2,092	27,485	87,888	--	--	5,132	82,756
Ralls	46,295	--	1,056	12,803	32,436	169,985	--	5,029	43,894	121,062
Randolph	31,839	--	--	3,396	28,443	84,902	--	--	11,091	73,811
Ray	23,762	--	--	13,260	10,502	56,817	--	--	39,083	17,734
Saline	27,801	--	285	8,551	18,965	79,948	--	--	26,794	53,154
Schuyler	11,148	--	--	1,366	9,782	33,647	--	--	3,006	30,641
Scotland	14,206	--	--	4,370	9,836	44,436	--	--	14,940	29,496
Shelby	42,747	--	93	9,059	33,595	141,185	--	500	30,009	110,676
Sullivan	39,153	--	--	9,744	29,409	118,232	--	--	33,752	84,480
Vernon	47,860	--	730	12,084	35,046	153,379	--	--	35,597	117,782
Worth	6,622	--	--	551	6,071	26,303	--	--	--	26,303
Total	1,593,027	--	8,605	394,684	1,189,738	4,868,806	--	17,887	1,318,745	3,532,174
Riverborder Unit										
Boone	61,207	--	2,665	11,999	46,543	175,079	--	10,529	36,253	128,297
Callaway	143,392	--	7,671	7,957	127,764	400,412	--	18,574	19,802	362,036
Cape Girardeau	107,362	--	--	16,102	91,260	411,384	--	--	65,747	345,637
Cole	45,416	--	6,399	9,139	29,878	133,375	--	15,503	31,795	86,077
Dunklin	30,544	--	7,596	11,184	11,764	118,487	--	36,929	36,638	44,920
Franklin	180,014	--	17,775	9,030	153,209	554,062	--	50,560	27,644	475,858
Gasconade	104,890	--	7,402	6,420	91,068	296,894	--	13,262	19,634	263,998
Howard	42,903	--	1,559	6,885	34,459	130,371	--	3,081	19,103	108,187
Jefferson	165,639	1,168	19,680	12,294	132,497	511,837	3,759	55,869	45,544	406,665
Mississippi	22,334	--	3,117	14,072	5,145	96,490	--	15,399	59,690	21,401
Moniteau	30,488	--	1,769	1,287	27,432	73,413	--	4,824	3,768	64,821
Montgomery	78,672	--	4,597	2,268	71,807	227,191	--	13,322	3,955	209,914
New Madrid	19,343	--	--	14,911	4,432	77,970	--	--	61,430	16,540
Osage	93,572	--	6,351	2,458	84,763	254,104	--	14,766	3,467	235,871
Pemiscot	18,029	--	--	17,712	317	74,555	--	--	73,027	1,528
Perry	124,102	3,683	6,653	26,654	87,112	429,797	4,475	24,447	110,204	290,671
St. Charles	108,271	--	8,429	20,650	79,192	373,763	--	27,637	75,839	270,287
St. Louis	33,121	--	--	1,072	32,049	126,078	--	--	4,103	121,975
Ste. Genevieve	118,179	3,814	7,075	4,782	102,508	361,881	15,458	13,952	14,981	317,490
Scott	30,544	--	716	16,382	13,446	125,661	--	3,717	67,042	54,902
Stoddard	48,055	--	1,171	8,067	38,817	171,129	--	5,791	32,107	133,231
Warren	136,670	13,843	2,811	20,323	99,693	489,613	54,123	7,929	84,646	342,915
Total	1,742,747	22,508	113,436	241,648	1,365,155	5,613,546	77,815	336,091	896,419	4,303,221
All counties	8,988,567	634,421	224,983	844,867	7,284,296	25,883,622	2,241,242	504,873	2,800,126	20,337,381

Table 17.--Net volume of live trees and growing stock on timberland by ownership class and species group, Missouri, 1989

(In thousand cubic feet)

Ownership class	Live trees					Growing-stock trees				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
National forest	1,492,400	302,569	10,688	33,477	1,145,666	1,150,913	296,078	8,200	20,026	826,609
Miscellaneous federal	268,211	7,342	6,121	55,748	199,000	166,608	7,032	4,220	38,406	116,950
State	460,898	45,318	17,963	66,275	331,342	325,970	44,490	15,912	42,583	222,985
County and municipal	39,251	--	--	9,150	30,101	22,203	--	--	6,271	15,932
Forest industry	231,833	35,938	--	3,823	192,072	172,674	35,521	--	2,583	134,570
Farmer	5,102,147	99,077	102,775	702,878	4,197,417	3,170,977	96,088	79,730	429,568	2,565,591
Misc. private corporation	930,518	21,088	19,397	122,165	767,868	588,608	20,182	15,557	72,634	480,235
Misc. private individual	5,320,147	142,561	124,409	381,571	4,671,606	3,390,614	135,030	101,364	232,796	2,921,424
All owners	13,845,405	653,893	281,353	1,375,087	11,535,072	8,988,567	634,421	224,983	844,867	7,284,296

Table 18.--Net volume of sawtimber on timberland by species group and butt log grade, Missouri, 1989

(In thousand board feet) [1]

Species group	All grades	Butt log grade 1	2	3	Tie and timber
Softwoods					
White pine	54,123	2,706	541	44,922	5,954
Shortleaf pine	2,182,900	45,064	432,967	1,704,869	--
Other yellow pines	4,219	--	--	4,219	--
Baldcypress	61,836	--	2,462	59,374	--
Eastern redcedar	443,037	--	2,894	440,143[2]	--
Other softwoods	--	--	--	--	--
Total	2,746,115	47,770	438,864	2,253,527	5,954
Hardwoods					
Select white oak	6,663,522	194,915	1,025,055	2,698,369	2,745,183
Other white oak	1,795,097	11,572	100,000	528,744	1,154,781
Select red oak	1,389,537	75,243	131,222	345,468	837,604
Other red oak	7,435,836	56,249	329,961	1,563,376	5,486,250
Select hickory	983,474	21,289	123,312	250,310	588,563
Other hickory	846,489	11,102	87,580	275,323	472,484
Basswood	57,911	--	33,436	11,201	13,274
Beech	2,228	--	--	434	1,794
Hard maple	140,069	--	825	27,084	112,160
Soft maple	410,973	11,300	87,612	165,014	147,047
Elm	174,714	--	21,480	53,999	99,235
Ash	384,050	11,070	135,753	167,031	70,196
Sycamore	707,601	207,459	150,839	233,367	115,936
Cottonwood	728,138	19,960	137,754	281,536	288,888
Willow	317,166	5,677	24,319	137,513	149,657
Hackberry	222,899	--	30,356	83,056	109,487
Aspen	--	--	--	--	--
Birch	85,266	3,326	11,758	20,763	49,419
Sweetgum	26,234	4,970	--	13,157	8,107
Tupelo	94,877	5,551	6,681	34,480	48,165
Black cherry	38,837	3,964	7,321	5,187	22,365
Black walnut	398,282	21,564	73,794	178,170	124,754
Butternut	3,494	--	--	3,494	--
Yellow-poplar	17,282	--	--	17,282	--
Persimmon	1,566	--	--	1,566	--
Sassafras	5,196	--	--	1,292	3,904
Other hardwoods	206,769	--	28,283	23,714	154,772
Total	23,137,507	665,211	2,547,341	7,120,930	12,804,025
All species	25,883,622	712,981	2,986,205	9,374,457	12,809,979

[1] International 1/4-inch rule.

[2] Includes 29,172 thousand board feet of volume from sawtimber-sized, Grade 5 eastern redcedar trees graded for specieal use. (See Log Grades for Eastern Redcedar in the Appendix.)

Table 19.--Average net annual growth of growing stock and sawtimber on timberland by county and species group, Missouri, 1972-1988

Unit and County	Growing stock					Sawtimber				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Thousand cubic feet					*Thousand board feet*[1]				
Eastern Ozarks										
Bollinger	5,824	254	--	390	5,180	21,999	1,641	--	578	19,780
Butler	3,657	700	--	207	2,750	16,715	4,488	--	915	11,312
Carter	7,346	2,141	--	107	5,098	23,340	9,622	--	705	13,013
Crawford	6,155	59	82	262	5,752	19,715	--	56	1,796	17,863
Dent	6,360	1,165	12	53	5,130	26,723	7,744	--	1,039	17,940
Iron	6,683	353	18	113	6,199	32,091	3,309	436	88	28,258
Madison	6,235	601	98	424	5,112	23,639	2,530	241	1,308	19,560
Oregon	7,344	414	16	41	6,873	24,947	1,669	47	22	23,209
Reynolds	11,739	1,617	13	134	9,975	50,725	9,477	13	-34	41,269
Ripley	6,097	599	15	528	4,955	22,868	4,156	--	1,124	17,588
St. Francois	2,288	2	145	144	1,997	8,396	--	111	64	8,221
Shannon	11,707	1,781	31	81	9,814	38,513	9,767	42	172	28,532
Washington	8,095	1,164	184	94	6,653	31,015	5,015	407	749	24,844
Wayne	9,296	1,328	65	116	7,787	40,536	7,596	310	44	32,586
Total	98,826	12,178	679	2,694	83,275	381,222	67,014	1,663	8,570	303,975
Southwest Ozarks										
Barry	5,067	282	767	219	3,799	16,172	1,512	832	-3	13,831
Christian	2,425	14	76	55	2,280	4,850	76	--	207	4,567
Douglas	6,766	617	128	323	5,698	23,453	4,156	32	590	18,675
Howell	7,206	1,207	37	66	5,896	23,587	4,454	17	-4	19,120
McDonald	3,727	11	19	126	3,571	13,978	45	103	-59	13,889
Newton	1,749	--	4	75	1,670	4,020	--	--	100	3,920
Ozark	5,161	637	423	209	3,892	17,322	3,551	480	282	13,009
Stone	2,050	24	328	44	1,654	9,528	45	283	-175	9,375
Taney	4,734	246	1,116	121	3,251	11,631	117	1,189	1,251	9,074
Texas	8,916	2,730	141	211	5,834	30,711	9,427	153	440	20,691
Webster	1,961	--	22	101	1,838	5,709	--	--	--	5,709
Wright	2,716	8	34	115	2,559	9,130	--	40	376	8,714
Total	52,478	5,776	3,095	1,665	41,942	170,091	23,383	3,129	3,005	140,574
Northwest Ozarks										
Benton	2,929	--	111	82	2,736	8,351	--	83	338	7,930
Camden	3,427	--	99	10	3,318	10,123	--	292	66	9,765
Cedar	1,131	--	16	221	894	2,264	--	--	680	1,584
Dallas	2,092	--	57	112	1,923	10,046	--	36	360	9,650
Hickory	1,168	--	163	104	901	2,688	--	250	422	2,016
Laclede	3,392	307	245	23	2,817	8,940	142	14	989	7,795
Maries	2,550	126	259	156	2,009	5,846	372	130	193	5,151
Miller	2,417	--	184	91	2,142	11,148	--	1,162	327	9,659
Morgan	2,587	--	97	15	2,475	14,863	--	1,070	60	13,733
Phelps	3,749	231	91	204	3,223	11,348	2,649	229	318	8,152
Polk	1,770	--	310	152	1,308	3,801	--	106	40	3,655
Pulaski	3,662	768	104	366	2,424	10,563	736	122	971	8,734
St. Clair	1,871	--	34	323	1,514	6,260	--	75	2,180	4,005
Total	32,745	1,432	1,770	1,859	27,684	106,241	3,899	3,569	6,944	91,829
Prairie Unit										
Adair	1,224	--	--	267	957	3,651	--	--	433	3,218
Andrew	78	--	--	35	43	208	--	--	160	48
Atchison	110	--	--	61	49	384	--	--	198	186
Audrain	1,101	--	--	199	902	3,091	--	--	538	2,553
Barton	287	--	10	79	198	743	--	--	276	467
Bates	273	--	--	106	167	748	--	--	212	536
Buchanan	506	--	--	247	259	1,176	--	--	601	575
Caldwell	86	--	--	-6	92	1,123	--	--	-315	1,438
Carroll	1,044	--	8	776	260	2,701	--	--	1,768	933
Cass	374	--	--	11	363	469	--	--	-155	624
Chariton	2,219	--	--	1,171	1,048	6,052	--	--	3,686	2,366
Clark	762	--	18	27	717	4,783	--	26	50	4,707
Clay	375	--	--	223	152	998	--	--	851	147
Clinton	85	--	--	12	73	390	--	--	68	322
Cooper	1,236	--	106	256	874	2,517	--	21	712	1,784

[1] International 1/4-inch rule.

(Table 19 continued on next page)

(Table 19 continued)

Unit and County	Growing stock					Sawtimber				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Thousand cubic feet					*Thousand board feet*[1]				
Prairie Unit, cont.										
Dade	628	--	131	75	422	600	--	16	123	461
Daviess	476	--	--	1	475	3,485	--	--	-456	3,941
De Kalb	495	--	--	97	398	5,147	--	--	298	4,849
Gentry	471	--	3	35	433	2,312	--	--	106	2,206
Greene	1,369	--	25	282	1,062	1,631	--	28	151	1,452
Grundy	297	--	--	145	152	1,096	--	--	331	765
Harrison	1,046	--	--	300	746	3,459	--	--	1,224	2,235
Henry	868	--	11	470	387	4,975	--	13	2,261	2,701
Holt	311	--	--	215	96	915	--	--	607	308
Jackson	541	--	--	252	289	521	--	--	119	402
Jasper	731	--	--	290	441	3,544	--	--	228	3,316
Johnson	934	--	--	305	629	3,951	--	--	418	3,533
Knox	340	--	36	-68	372	2,826	--	59	-498	3,265
Lafayette	291	--	--	38	253	1,897	--	--	208	1,689
Lawrence	781	--	10	103	668	2,234	--	--	26	2,208
Lewis	1,627	--	24	487	1,116	5,362	--	88	-121	5,395
Lincoln	1,740	--	7	195	1,538	9,156	--	8	878	8,270
Linn	531	--	--	174	357	939	--	--	298	641
Livingston	705	--	6	356	343	6,189	--	--	3,042	3,147
Macon	1,477	--	--	735	742	5,262	--	--	2,599	2,663
Marion	498	--	--	-105	603	2,136	--	--	-494	2,630
Mercer	570	--	--	213	357	1,658	--	--	659	999
Monroe	1,078	--	-8	176	910	4,973	--	5	981	3,987
Nodaway	363	--	10	152	201	839	--	--	222	617
Pettis	733	--	12	322	399	2,167	--	--	1,418	749
Pike	2,046	--	-8	285	1,769	9,150	--	-44	2,825	6,369
Platte	385	--	--	232	153	622	--	--	352	270
Putnam	687	--	--	57	630	3,091	--	--	688	2,403
Ralls	933	--	27	409	497	3,373	--	92	1,124	2,157
Randolph	907	--	--	102	805	3,717	--	--	398	3,319
Ray	832	--	--	544	288	1,440	--	--	1,234	206
Saline	854	--	19	170	665	3,000	--	--	1,129	1,871
Schuyler	381	--	--	67	314	1,544	--	--	965	579
Scotland	320	--	--	92	228	608	--	--	191	417
Shelby	1,032	--	2	218	812	4,167	--	10	723	3,434
Sullivan	777	--	--	194	583	1,783	--	--	248	1,535
Vernon	988	--	19	336	633	5,304	--	--	1,062	4,242
Worth	203	--	--	40	163	2,823	--	--	--	2,823
Total	39,006	--	468	11,455	27,083	146,930	--	322	34,650	111,958
Riverborder Unit										
Boone	1,540	--	76	388	1,076	4,175	--	283	1,018	2,874
Callaway	6,301	--	181	186	5,934	21,417	--	235	425	20,757
Cape Girardeau	2,899	--	--	553	2,346	16,302	--	--	1,569	14,733
Cole	1,304	--	204	236	864	4,079	--	440	447	3,192
Dunklin	915	--	151	198	566	3,423	--	803	908	1,712
Franklin	4,598	--	701	352	3,545	17,977	--	1,327	1,771	14,879
Gasconade	2,327	--	338	175	1,814	11,737	--	2,264	412	9,061
Howard	1,176	--	104	195	877	7,806	--	171	568	7,067
Jefferson	3,079	21	345	337	2,376	19,121	48	2,192	928	15,953
Mississippi	310	--	25	224	61	1,908	--	145	1,379	384
Moniteau	732	--	117	3	612	1,404	--	204	-125	1,325
Montgomery	1,820	--	158	165	1,497	9,607	--	510	326	8,771
New Madrid	484	--	--	367	117	1,939	--	--	1,396	543
Osage	2,515	--	238	58	2,219	7,624	--	277	34	7,313
Pemiscot	132	--	--	138	-6	1,716	--	--	1,710	6
Perry	2,721	183	141	394	2,003	13,502	224	860	2,238	10,180
St. Charles	2,981	--	335	971	1,675	14,111	--	666	4,709	8,736
St. Louis	1,330	--	--	443	887	6,618	--	--	2,149	4,469
Ste. Genevieve	2,882	95	480	128	2,179	13,965	472	504	383	12,606
Scott	437	--	16	129	292	2,993	--	87	1,866	1,040
Stoddard	1,169	--	23	243	903	4,274	--	122	1,085	3,067
Warren	2,615	658	121	158	1,678	10,177	3,005	332	-88	6,928
Total	44,267	957	3,754	6,041	33,515	195,875	3,749	11,422	25,108	155,596
All counties	267,322	20,343	9,766	23,714	213,499	1,000,359	98,045	20,105	78,277	803,932

[1] International 1/4-inch rule.

Table 20.--Average annual removals of growing stock and sawtimber on timberland by county and species group, Missouri, 1972-1988

Unit and County	Growing stock					Sawtimber				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Thousand cubic feet					*Thousand board feet*[1]				
Eastern Ozarks										
Bollinger	2,598	61	--	50	2,487	10,652	319	--	218	10,115
Butler	3,109	468	--	263	2,378	10,791	1,570	--	936	8,285
Carter	3,087	136	--	101	2,850	11,185	420	--	199	10,566
Crawford	1,847	--	--	--	1,847	6,453	--	--	--	6,453
Dent	3,580	--	--	43	3,537	11,697	--	--	--	11,697
Iron	3,502	52	--	88	3,362	10,695	278	--	327	10,090
Madison	2,995	275	--	--	2,720	10,919	1,433	--	--	9,486
Oregon	6,615	645	--	134	5,836	24,555	3,009	--	191	21,355
Reynolds	6,427	603	--	171	5,653	26,632	2,427	--	606	23,599
Ripley	2,764	88	--	127	2,549	10,257	451	--	431	9,375
St. Francois	381	--	--	--	381	1,856	--	--	--	1,856
Shannon	3,744	810	25	218	2,691	13,664	2,618	--	940	10,106
Washington	3,520	475	--	124	2,921	10,856	2,146	--	472	8,238
Wayne	5,619	--	--	28	5,591	23,051	--	--	--	23,051
Total	49,788	3,613	25	1,347	44,803	183,263	14,671	--	4,320	164,272
Southwest Ozarks										
Barry	2,484	1,584	--	--	900	7,383	4,400	--	--	2,983
Christian	215	--	--	--	215	536	--	--	--	536
Douglas	2,152	236	--	--	1,916	7,048	970	--	--	6,078
Howell	2,982	178	--	--	2,804	11,090	924	--	--	10,166
McDonald	694	--	--	--	694	2,711	--	--	--	2,711
Newton	829	--	--	--	829	2,096	--	--	--	2,096
Ozark	1,955	204	--	--	1,751	6,739	1,071	--	--	5,668
Stone	1,859	--	94	--	1,765	3,097	--	--	--	3,097
Taney	2,794	--	84	44	2,666	10,170	--	--	--	10,170
Texas	4,226	973	--	--	3,253	15,010	3,346	--	--	11,664
Webster	969	--	--	--	969	1,477	--	--	--	1,477
Wright	1,677	--	--	221	1,456	5,683	--	--	1,008	4,675
Total	22,836	3,175	178	265	19,218	73,040	10,711	--	1,008	61,321
Northwest Ozarks										
Benton	1,798	--	--	74	1,724	4,201	--	--	332	3,869
Camden	921	--	--	--	921	3,689	--	--	--	3,689
Cedar	435	--	--	215	220	2,061	--	--	1,014	1,047
Dallas	952	--	--	--	952	2,614	--	--	--	2,614
Hickory	961	--	--	--	961	2,544	--	--	--	2,544
Laclede	246	--	--	--	246	843	--	--	--	843
Maries	402	--	--	--	402	404	--	--	--	404
Miller	1,533	--	--	--	1,533	3,030	--	--	--	3,030
Morgan	956	--	--	--	956	3,884	--	--	--	3,884
Phelps	1,273	--	--	--	1,273	2,999	--	--	--	2,999
Polk	469	--	--	--	469	1,309	--	--	--	1,309
Pulaski	1,432	--	30	34	1,368	4,339	--	122	155	4,062
St. Clair	453	--	--	--	453	1,843	--	--	--	1,843
Total	11,831	--	30	323	11,478	33,760	--	122	1,501	32,137
Prairie Unit										
Adair	87	--	--	--	87	370	--	--	--	370
Andrew	--	--	--	--	--	--	--	--	--	--
Atchison	--	--	--	--	--	--	--	--	--	--
Audrain	57	--	--	--	57	204	--	--	--	204
Barton	96	--	--	--	96	468	--	--	--	468
Bates	--	--	--	--	--	--	--	--	--	--
Buchanan	--	--	--	--	--	--	--	--	--	--
Caldwell	--	--	--	--	--	--	--	--	--	--
Carroll	197	--	--	--	197	469	--	--	--	469
Cass	--	--	--	--	--	--	--	--	--	--
Chariton	226	--	--	--	226	1,032	--	--	--	1,032
Clark	1,439	--	--	1,129	310	4,438	--	--	3,377	1,061
Clay	86	--	--	86	--	340	--	--	340	--
Clinton	--	--	--	--	--	--	--	--	--	--
Cooper	136	--	--	--	136	487	--	--	--	487

[1] International 1/4-inch rule.

(Table 20 continued on next page)

(Table 20 continued)

Unit and County	Growing stock					Sawtimber				
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Thousand cubic feet					*Thousand board feet* [1]				
Prairie Unit, cont.										
Dade	821	--	--	--	821	2,472	--	--	--	2,472
Daviess	--	--	--	--	--	--	--	--	--	--
De Kalb	--	--	--	--	--	--	--	--	--	--
Gentry	--	--	--	--	--	--	--	--	--	--
Greene	122	--	--	--	122	222	--	--	--	222
Grundy	597	--	--	115	482	1,677	--	--	482	1,195
Harrison	80	--	--	--	80	385	--	--	--	385
Henry	244	--	--	--	244	1,162	--	--	--	1,162
Holt	--	--	--	--	--	--	--	--	--	--
Jackson	--	--	--	--	--	--	--	--		--
Jasper	664	--	--	--	664	2,633	--	--		2,633
Johnson	505	--	--	82	423	1,688	--	--	291	1,397
Knox	199	--	--	98	101	936	--	--	450	486
Lafayette	--	--	--	--	--	--	--	--	--	--
Lawrence	256	--	--	--	256	1,060	--	--	--	1,060
Lewis	361	--	--	--	361	1,062	--	--	--	1,062
Lincoln	383	--	--	--	383	1,693	--	--	--	1,693
Linn	185	--	--	--	185	466	--	--	--	466
Livingston	321	--	--	--	321	1,559	--	--	--	1,559
Macon	392	--	--	--	392	1,727	--	--	--	1,727
Marion	810	--	--	78	732	2,841	--	--	221	2,620
Mercer	--	--	--	--	--	--	--	--	--	--
Monroe	228	--	75	--	153	330	--	228	--	102
Nodaway	--	--	--	--	--	--	--	--	--	--
Pettis	178	--	--	62	116	603	--	--	287	316
Pike	375	--	--	--	375	1,470	--	--	--	1,470
Platte	--	--	--	--	--	--	--	--	--	--
Putnam	--	--	--	--	--	--	--	--	--	--
Ralls	728	--	--	331	397	3,526	--	--	1,625	1,901
Randolph	--	--	--	--	--	--	--	--	--	--
Ray	26	--	--	--	26	--	--	--	--	--
Saline	--	--	--	--	--	--	--	--	--	--
Schuyler	--	--	--	--	--	--	--	--	--	--
Scotland	115	--	--	--	115	--	--	--	--	--
Shelby	353	--	--	163	190	1,372	--	--	679	693
Sullivan	--	--	--	--	--	--	--	--	--	--
Vernon	650	--	--	--	650	2,954	--	--	--	2,954
Worth	--	--	--	--	--	--	--	--	--	--
Total	10,917	--	75	2,144	8,698	39,646	--	228	7,752	31,666
Riverborder Unit										
Boone	503	--	38	322	143	2,372	--	115	1,588	669
Callaway	1,490	--	20	25	1,445	3,857	--	--	--	3,857
Cape Girardeau	2,577	--	--	524	2,053	10,718	--	--	2,247	8,471
Cole	130	--	--	--	130	635	--	--	--	635
Dunklin	97	--	--	--	97	308	--	--	--	308
Franklin	3,183	--	94	421	2,668	11,414	--	169	1,497	9,748
Gasconade	773	--	41	39	693	2,890	--	--	180	2,710
Howard	249	--	--	--	249	1,029	--	--	--	1,029
Jefferson	2,103	--	14	--	2,089	8,382	--	--	--	8,382
Mississippi	--	--	--	--	--	600	--	--	--	--
Moniteau	111	--	--	--	111	--	--	--	--	--
Montgomery	791	--	--	137	654	2,975	--	--	505	2,470
New Madrid	132	--	--	132	--	642	--	--	642	--
Osage	1,144	--	--	--	1,144	3,427	--	--	--	3,427
Pemiscot	--	--	--	--	--	--	--	--	--	--
Perry	724	--	45	35	644	2,783	--	176	134	2,473
St. Charles	865	--	--	154	711	1,940	--	--	--	1,940
St. Louis	3,756	--	--	1,394	2,362	15,471	--	--	6,288	9,183
Ste. Genevieve	1,515	--	30	31	1,454	5,947	--	140	103	5,704
Scott	25	--	--	14	11	111	--	--	63	48
Stoddard	247	--	--	74	173	1,028	--	--	305	723
Warren	763	--	--	23	740	3,061	--	--	66	2,995
Total	21,178	--	282	3,325	17,571	79,590	--	600	13,618	64,772
All counties	116,550	6,788	590	7,404	101,768	408,699	25,382	950	28,199	354,168

[1] International 1/4-inch rule.

Table 21.--Average net annual growth and average annual removals of growing stock on timberland by species group and Forest Survey Unit, Missouri, 1972-1988

(In thousand cubic feet)

Species group	All Units		Eastern Ozarks Unit		Southwest Ozarks Unit		Northwest Ozarks Unit		Prairie Unit		Riverborder Unit	
	Growth	Removals	Growth	Removals	Growth	Removals	Growth	Removals	Growth	Removals	Growth	Removals
Softwoods												
White pine	658	--	--	--	--	--	--	--	--	--	658	--
Shortleaf pine	19,618	6,788	12,138	3,613	5,761	3,175	1,432	--	--	--	287	--
Other yellow pines	55	--	40	--	15	--	--	--	--	--	--	--
Baldcypress	222	--	7	--	--	--	--	--	--	--	215	--
Eastern redcedar	9,544	590	672	25	3,095	178	1,770	30	468	75	3,539	282
Other softwoods	12	--	--	--	--	--	--	--	--	--	12	--
Total	30,109	7,378	12,857	3,638	8,871	3,353	3,202	30	468	75	4,711	282
Hardwoods												
Select white oak	66,249	24,254	29,609	9,161	9,973	3,299	7,663	2,103	7,397	1,900	11,607	7,791
Other white oak	20,473	13,720	5,796	3,534	4,724	4,013	5,321	3,454	1,070	1,076	3,562	1,643
Select red oak	9,066	4,842	2,296	1,450	1,292	1,067	1,724	434	1,985	502	1,769	1,389
Other red oak	79,691	46,725	36,621	26,881	21,175	8,446	9,196	4,921	6,452	2,731	6,247	3,746
Select hickory	11,042	3,317	2,291	1,174	1,543	428	1,166	206	3,842	858	2,200	651
Other hickory	11,553	4,468	5,039	1,673	1,915	1,507	1,327	181	1,945	200	1,327	907
Basswood	320	--	--	--	12	--	--	--	254	--	54	--
Beech	19	--	--	--	--	--	--	--	--	--	19	--
Hard maple	4,691	136	651	55	-18	--	36	--	268	--	3,754	81
Soft maple	5,175	1,276	171	43	149	--	167	--	3,287	1,100	1,401	133
Elm	4,884	1,445	259	451	653	44	478	--	2,359	362	1,135	588
Ash	3,599	1,939	240	361	156	85	371	31	1,464	597	1,368	865
Sycamore	3,730	1,709	1,037	298	311	221	706	289	1,054	435	622	466
Cottonwood	1,913	1,422	49	--	--	--	25	--	813	136	1,026	1,286
Willow	624	71	58	--	--	--	100	--	115	--	351	71
Hackberry	5,360	676	282	--	365	--	312	--	3,330	111	1,071	565
Aspen	10	--	--	--	--	--	--	--	--		10	--
Birch	499	261	65	--	--	--	9	--	204	229	221	32
Sweetgum	421	231	344	134	--	--	--	--	--	--	77	97
Tupelo	523	386	394	329	97	--	44	34	--	--	-12	23
Black cherry	615	188	71	92	92	--	31	--	233	--	188	96
Black walnut	2,378	1,418	-45	254	642	373	624	119	839	531	318	141
Butternut	5	--	11	--	-14	--	-4	--	10	--	2	--
Yellow-poplar	134	--	18	--	--	--	--	--	--	--	116	--
Persimmon	812	180	193	34	95	--	113	--	162	--	249	146
Sassafras	265	122	96	47	46	--	12	29	13	--	98	46
Other hardwoods	3,162	386	423	179	399	--	122	--	1,442	74	776	133
Total	237,213	109,172	85,969	46,150	43,607	19,483	29,543	11,801	38,538	10,842	39,556	20,896
All species	267,322	116,550	98,826	49,788	52,478	22,836	32,745	11,831	39,006	10,917	44,267	21,178

Table 22.--Average net annual growth and average annual removals of sawtimber on timberland by species group and Forest Survey Unit, Missouri, 1972-1988

(In thousand board feet) [1]

Species group	All Units		Eastern Ozarks Unit		Southwest Ozarks Unit		Northwest Ozarks Unit		Prairie Unit		Riverborder Unit	
	Growth	Removals	Growth	Removals	Growth	Removals	Growth	Removals	Growth	Removals	Growth	Removals
Softwoods												
White pine	3,005	--	--	--	--	--	--	--	--	--	3,005	--
Shortleaf pine	94,923	25,382	66,897	14,671	23,383	10,711	3,899	--	--	--	744	--
Other yellow pines	117	--	117	--	--	--	--	--	--	--	--	--
Baldcypress	1,157	--	--	--	--	--	--	--	--	--	1,157	--
Eastern redcedar	18,948	950	1,663	--	3,129	--	3,569	122	322	228	10,265	600
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--
Total	118,150	26,332	68,677	14,671	26,512	10,711	7,468	122	322	228	15,171	600
Hardwoods												
Select white oak	245,109	86,096	87,365	30,286	36,041	10,035	30,802	6,809	34,749	8,460	56,152	30,506
Other white oak	53,941	37,648	10,781	10,690	10,619	13,012	13,229	6,479	4,044	3,645	15,268	3,822
Select red oak	43,774	20,924	8,142	6,403	4,553	3,945	11,311	2,079	11,394	2,242	8,374	6,255
Other red oak	338,560	175,829	171,678	106,754	76,205	28,248	30,198	15,610	28,014	10,558	32,465	14,659
Select hickory	35,158	9,979	6,475	3,488	5,580	1,846	2,948	393	9,042	1,746	11,113	2,506
Other hickory	33,587	11,160	13,982	3,921	5,265	3,381	617	395	6,190	184	7,533	3,279
Basswood	1,484	--	--	--	139	--	--	--	1,128	--	217	--
Beech	90	--	--	--	--	--	--	--	--	--	90	--
Hard maple	16,233	334	1,567	--	-76	--	56	--	778	--	13,908	334
Soft maple	17,636	3,570	559	--	215	--	2,128	--	10,807	3,109	3,927	461
Elm	4,962	4,296	403	1,347	-251	--	-148	--	2,758	1,356	2,200	1,593
Ash	9,518	5,134	1,028	975	1,023	406	578	--	2,580	1,692	4,309	2,061
Sycamore	19,296	7,807	4,026	1,112	2,217	1,008	3,313	1,346	6,521	2,107	3,219	2,234
Cottonwood	8,753	6,765	256	--	--	--	124	--	3,123	686	5,250	6,079
Willow	7,773	330	364	--	--	--	286	--	1,136	--	5,987	330
Hackberry	13,747	2,551	731	--	524	--	941	--	8,849	494	2,702	2,057
Aspen	--	--	--	--	--	--	--	--	--	--	--	--
Birch	1,673	1,007	55	--	--	--	--	--	1,103	863	515	144
Sweetgum	1,120	936	687	508	--	--	--	--	0	--	433	428
Tupelo	1,043	1,307	301	1,043	29	--	250	155	0	--	463	109
Black cherry	1,855	637	1,121	310	171	--	9	--	297	--	257	327
Black walnut	14,420	4,403	2,008	996	927	448	1,954	284	6,616	2,061	2,915	614
Butternut	68	--	35	--	-39	--	41	--	31	--	--	--
Yellow-poplar	540	--	87	--	--	--	--	--	--	--	453	--
Persimmon	136	157	--	--	--	--	--	--	--	--	136	157
Sassafras	153	88	--	--	67	--	28	88	7	--	51	--
Other hardwoods	11,580	1,409	894	759	370	--	108	--	7,441	215	2,767	435
Total	882,209	382,367	312,545	168,592	143,579	62,329	98,773	33,638	146,608	39,418	180,704	78,390
All species	1,000,359	408,699	381,222	183,263	170,091	73,040	106,241	33,760	146,930	39,646	195,875	78,990

[1] International 1/4-inch rule.

Table 23.--Average net annual growth and average annual removals of growing stock on timberland by ownership class and major species group, Missouri, 1972-1988

(In thousand cubic feet)

Ownership class	Growth					Removals				
		Species group					Species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
National forest	32,337	8,402	330	452	23,153	18,077	4,579	33	175	13,290
Miscellaneous federal	4,096	584	322	825	2,365	1,269	--	--	101	1,168
State	9,273	1,606	501	1,000	6,166	2,613	42	--	627	1,944
County and municipal	945	--	--	580	365	1,714	--	--	1,231	483
Forest industry	6,896	1,347	--	151	5,398	2,797	170	--	204	2,423
Farmer	93,965	3,302	4,221	10,675	75,767	46,683	1,260	401	2,624	42,398
Miscellaneous private corporation	17,302	625	640	2,864	13,173	7,901	--	67	74	7,760
Miscellaneous private individual	102,508	4,477	3,752	7,167	87,112	35,496	737	89	2,368	32,302
All owners	267,322	20,343	9,766	23,714	213,499	116,550	6,788	590	7,404	101,768

Table 24.--Average net annual growth and average annual removals of sawtimber on timberland by ownership class and major species group, Missouri, 1972-1988

(In thousand board feet)[1]

Ownership class	Growth					Removals				
		Species group					Species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
National forest	130,470	42,196	410	1,007	86,857	57,354	15,772	--	275	41,307
Miscellaneous federal	14,109	1,283	294	4,063	8,469	3,508	--	--	199	3,309
State	32,404	6,763	1,606	4,427	19,608	11,556	137	--	2,668	8,751
County and municipal	3,595	--	--	2,704	891	7,666	--	--	5,618	2,048
Forest industry	25,721	6,869	--	607	18,245	12,660	730	--	927	11,003
Farmer	350,935	18,030	6,469	34,963	291,473	156,330	5,559	553	10,047	140,171
Miscellaneous private corporation	60,879	2,016	1,140	8,831	48,892	27,287	--	169	332	26,786
Miscellaneous private individual	382,246	20,888	10,186	21,675	329,497	132,338	3,184	228	8,133	120,793
All owners	1,000,359	98,045	20,105	78,277	803,932	408,699	25,382	950	28,199	354,168

[1] International 1/4-inch rule.

Table 25.--Average annual mortality of growing stock and sawtimber on timberland by species group, Missouri, 1972-1988

Species group	Growing stock	Sawtimber
	Thousand cubic feet	*Thousand board feet* [1]
Softwoods		
White pine	--	--
Shortleaf pine	2,607	6,679
Other yellow pines	7	12
Baldcypress	118	569
Eastern redcedar	731	2,099
Other softwoods	--	--
Total	3,463	9,359
Hardwoods		
Select white oak	5,742	14,947
Other white oak	5,900	11,511
Select red oak	2,824	10,949
Other red oak	28,799	74,719
Select hickory	3,194	7,959
Other hickory	3,571	6,299
Basswood	58	141
Beech	3	5
Hard maple	402	558
Soft maple	1,236	3,799
Elm	5,330	10,030
Ash	1,396	2,792
Sycamore	1,718	6,089
Cottonwood	2,754	12,366
Willow	2,473	8,718
Hackberry	738	1,575
Aspen	--	--
Birch	492	1,342
Sweetgum	176	593
Tupelo	278	687
Black cherry	215	222
Black walnut	1,309	2,760
Butternut	27	64
Yellow-poplar	21	88
Persimmon	205	22
Sassafras	103	96
Other hardwoods	1,227	2,168
Total	70,191	180,499
All species	73,654	189,858

[1] International 1/4-inch rule.

Table 26.--Area of land by land class and Forest Survey Unit, Missouri, 1972 and 1989

(In thousand acres)

Land class	All Units		Eastern Ozarks Unit		Southwest Ozarks Unit		Northwest Ozarks Unit		Prairie Unit		Riverborder Unit	
	1972	1989	1972	1989	1972	1989	1972	1989	1972	1989	1972	1989
Forest land												
Timberland												
Shortleaf pine	204.5	232.8	168.3	133.1	36.2	62.5	--	32.0	--	--	--	5.2
Eastern redcedar	100.5	225.0	11.6	18.2	31.6	53.7	3.6	52.3	4.3	13.6	49.4	87.2
E. redcedar-hardwood	228.6	488.9	24.3	51.0	68.6	179.3	30.8	78.0	--	20.4	104.9	160.2
Shortleaf pine-oak	296.7	370.8	214.5	249.3	77.2	109.8	4.0	4.1	--	--	1.0	7.6
Post-blackjack oak	2,784.5	2,430.5	706.0	566.2	795.9	633.0	768.9	697.3	181.4	210.2	332.3	323.8
Black-scarlet oak	4,937.4	4,912.2	2,105.9	1,899.1	976.3	995.3	715.2	812.0	548.8	687.1	591.2	518.7
White oak	2,512.1	2,952.1	738.0	1,001.7	273.5	342.3	321.3	373.5	499.6	584.9	679.7	649.7
Oak-gum-cypress	125.1	117.3	7.5	9.7	--	--	--	3.5	86.7	81.2	30.9	22.9
Elm-ash-soft maple	558.4	597.7	39.2	48.4	7.7	23.9	38.2	39.2	354.8	348.4	118.5	137.8
Cottonwood	17.1	29.3	--	--	--	--	--	--	4.6	20.8	12.5	8.5
Maple-beech	579.1	995.7	60.2	129.5	44.3	93.1	31.2	77.7	260.2	528.4	183.2	167.0
Nonstocked	10.5	18.5	8.4	3.8	--	5.3	--	--	--	5.3	2.1	4.1
Subtotal	12,354.5	13,370.8	4,083.9	4,110.0	2,311.3	2,498.2	1,913.2	2,169.6	1,940.4	2,500.3	2,105.7	2,092.7
Reserved forest land	256.1	316.9	97.3	159.1	22.6	52.8	73.6	27.2	46.5	16.9	16.1	60.9
Other forest land	298.3	310.5	63.3	31.2	109.3	62.4	77.4	116.6	15.9	15.3	32.4	85.0
All forest land	12,908.9	13,998.2	4,244.5	4,300.3	2,443.2	2,613.4	2,064.2	2,313.4	2,002.8	2,532.5	2,154.2	2,238.6
Nonforest land												
Cropland	11,592.4	11,693.6	525.7	522.8	427.2	377.1	526.2	588.6	6,584.1	6,182.8	3,529.2	4,022.3
Pasture	17,557.2	15,056.7	1,058.3	969.1	2,404.9	2,126.8	2,279.2	1,742.1	10,092.4	9,267.1	1,722.4	951.6
Other	2,217.9	3,376.4	333.0	343.3	165.7	317.7	147.7	349.7	938.9	1,558.9	632.6	806.8
All nonforest land	31,367.5	30,126.7	1,917.0	1,835.2	2,997.8	2,821.6	2,953.1	2,680.4	17,615.4	17,008.8	5,884.2	5,780.7
Total land	44,276.4	44,124.9	6,161.5	6,135.5	5,441.0	5,435.0	5,017.3	4,993.8	19,618.2	19,541.3	8,038.4	8,019.3
Water	279.4	481.6	5.7	12.9	46.7	93.2	27.1	123.2	86.7	118.3	113.2	134.0
Total land and water	44,555.8	44,606.5	6,167.2	6,148.4	5,487.7	5,528.2	5,044.4	5,117.0	19,704.9	19,659.6	8,151.6	8,153.3

Table 27.--Area of timberland by county, Missouri, 1959, 1972, and 1989

(In thousand acres)

Unit and County	1959[1]	1972[1]	1989
Eastern Ozarks Unit			
Bollinger	209.2	201.7	215.5
Butler	239.4	168.1	130.7
Carter	264.7	251.8	266.4
Crawford	316.4	320.9	321.9
Dent	317.5	308.2	302.4
Iron	272.7	285.1	275.9
Madison	222.2	227.7	239.6
Oregon	350.0	316.4	292.6
Reynolds	411.8	423.0	425.5
Ripley	299.7	269.7	269.0
St. Francois	147.5	141.0	142.3
Shannon	504.2	477.0	466.5
Washington	343.6	355.0	375.2
Wayne	360.5	338.3	386.5
Total	4,259.4	4,083.9	4,110.0
Southwest Ozarks Unit			
Barry	227.9	182.6	201.7
Christian	155.2	128.3	143.5
Douglas	287.3	246.1	300.3
Howell	323.1	270.6	277.8
McDonald	189.1	166.9	184.7
Newton	141.2	103.6	97.6
Ozark	288.4	236.4	251.0
Stone	166.9	124.1	125.1
Taney	260.4	197.5	230.6
Texas	424.6	373.6	412.7
Webster	143.1	120.1	118.4
Wright	208.2	161.5	154.8
Total	2,815.4	2,311.3	2,498.2
Northwest Ozarks Unit			
Benton	198.0	166.5	188.6
Camden	237.4	213.4	235.4
Cedar	92.5	72.1	84.0
Dallas	133.2	126.2	136.9
Hickory	107.0	100.0	83.9
Laclede	217.5	188.4	207.0
Maries	155.1	137.1	137.2
Miller	162.8	152.4	173.4
Morgan	172.3	162.2	172.9
Phelps	222.6	212.7	262.9
Polk	108.1	83.4	105.0
Pulaski	190.7	175.7	220.7
St. Clair	149.1	123.1	161.7
Total	2,146.3	1,913.2	2,169.6
Prairie Unit			
Adair	56.2	49.3	68.5
Andrew	30.7	16.1	17.4
Atchison	26.7	13.9	16.6
Audrain	40.5	29.1	34.3
Barton	30.6	25.6	38.7
Bates	61.2	49.3	60.0
Buchanan	31.8	19.7	26.7
Caldwell	29.7	17.7	20.1
Carroll	41.4	26.9	40.9
Cass	42.5	34.5	51.3
Chariton	55.3	41.9	51.1
Clark	54.7	53.2	70.9
Clay	21.4	22.0	22.1
Clinton	19.1	18.5	11.0
Cooper	54.7	48.6	53.2

(Table 27 continued on next page)

[1]Data from 1959 and 1972 have been adjusted to make them comparable to 1989 data.

(Table 27 continued)

Unit and county	1959[1]	1972[1]	1989
Prairie Unit, continued			
Dade	60.2	39.1	40.2
Daviess	42.0	32.3	41.4
De Kalb	23.6	13.8	11.4
Gentry	35.1	25.7	30.4
Greene	72.8	58.5	78.9
Grundy	30.6	26.4	17.2
Harrison	42.0	44.7	47.9
Henry	62.4	38.8	87.3
Holt	32.7	18.8	27.1
Jackson	45.1	22.5	38.9
Jasper	52.2	46.4	54.9
Johnson	62.2	50.6	66.0
Knox	34.8	32.7	39.1
Lafayette	32.8	21.9	28.9
Lawrence	65.9	49.5	58.2
Lewis	47.7	47.5	63.1
Lincoln	81.1	79.4	106.2
Linn	37.8	29.3	32.7
Livingston	47.2	30.3	37.8
Macon	77.9	63.2	80.2
Marion	42.8	42.1	49.8
Mercer	26.8	28.7	29.6
Monroe	55.7	50.5	72.2
Nodaway	42.7	25.3	35.4
Pettis	54.7	40.6	58.6
Pike	92.3	92.1	112.2
Platte	41.2	32.3	45.0
Putnam	45.9	40.5	59.8
Ralls	48.1	47.3	61.7
Randolph	45.3	49.2	45.1
Ray	48.0	38.4	48.5
Saline	51.1	31.5	49.4
Schuyler	20.8	13.4	26.2
Scotland	33.7	21.3	30.3
Shelby	38.0	34.9	47.8
Sullivan	51.4	38.5	50.4
Vernon	74.0	63.7	89.1
Worth	13.7	12.4	18.6
Total	2,408.8	1,940.4	2,500.3
Riverborder Unit			
Boone	87.5	109.6	107.0
Callaway	173.0	175.5	181.3
Cape Girardeau	79.8	87.4	94.5
Cole	84.0	77.9	71.1
Dunklin	29.6	20.1	21.8
Franklin	237.9	234.5	248.3
Gasconade	157.7	154.3	139.9
Howard	62.1	62.5	60.4
Jefferson	207.5	216.5	222.5
Mississippi	30.1	12.9	13.7
Moniteau	65.6	59.6	54.6
Montgomery	93.7	102.1	98.5
New Madrid	42.3	16.5	18.9
Osage	191.2	170.2	141.7
Pemiscot	20.1	11.8	11.3
Perry	96.1	103.4	116.6
St. Charles	83.2	89.6	83.8
St. Louis	64.1	66.1	31.9
Ste. Genevieve	159.2	151.8	177.3
Scott	23.2	18.0	19.1
Stoddard	79.3	41.9	47.8
Warren	121.2	123.5	130.7
Total	2,188.4	2,105.7	2,092.7
All counties	13,818.3	12,354.5	13,370.8

[1]Data from 1959 and 1972 have been adjusted to make them comparable to 1989 data.

Table 28.--Area of timberland by stand-size class and Forest Survey Unit, Missouri, 1959, 1972, and 1989

(In thousand acres)

Unit and stand-size class	1959[1]	1972[1]	1989
All Units			
Sawtimber	3,784.8	4,863.7	6,604.6
Poletimber	4,055.6	4,785.8	3,877.0
Seedling-sapling	[2]	2,694.5	2,870.7
Nonstocked	[2]	10.5	18.5
Total	13,818.3	12,354.5	13,370.8
Eastern Ozarks Unit			
Sawtimber	1,175.4	1,415.5	1,984.4
Poletimber	1,670.5	1,760.1	1,131.1
Seedling-sapling	[2]	899.9	990.7
Nonstocked	[2]	8.4	3.8
Total	4,259.4	4,083.9	4,110.0
Southwest Ozarks Unit			
Sawtimber	430.9	909.0	1,086.2
Poletimber	703.5	803.7	741.5
Seedling-sapling	[2]	598.6	665.2
Nonstocked	[2]	--	5.3
Total	2,815.4	2,311.3	2,498.2
Northwest Ozarks Unit			
Sawtimber	328.7	789.0	965.9
Poletimber	604.5	697.3	702.0
Seedling-sapling	[2]	426.9	501.7
Nonstocked	[2]	--	--
Total	2,146.3	1,913.2	2,169.6
Prairie Unit			
Sawtimber	885.9	783.5	1,274.0
Poletimber	504.2	788.6	753.9
Seedling-sapling	[2]	368.3	467.1
Nonstocked	[2]	--	5.3
Total	2,408.8	1,940.4	2,500.3
Riverborder Unit			
Sawtimber	963.9	966.7	1,294.1
Poletimber	572.8	736.1	548.5
Seedling-sapling	[2]	400.8	246.0
Nonstocked	[2]	2.1	4.1
Total	2,188.4	2,105.7	2,092.7

[1] Data from 1959 and 1972 have been adjusted to make them comparable to 1989 data.

[2] Seedling-sapling and nonstocked data from 1959 could not be compared to other data because the estimation procedure for these classes changed substantially between the 1959 and 1972 surveys.

Table 29.--Area of land by land use class and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Land use class	All Units	Forest Survey Unit				
		Eastern Ozarks Unit	Southwest Ozarks Unit	Northwest Ozarks Unit	Prairie Unit	Riverborder Unit
Forest land						
Timberland	13,370.8	4,110.0	2,498.2	2,169.6	2,500.3	2,092.7
Reserved forest land	316.9	159.1	52.8	27.2	16.9	60.9
Other forest land	310.5	31.2	62.4	116.6	15.3	85.0
Total	13,998.2	4,300.3	2,613.4	2,313.4	2,532.5	2,238.6
Nonforest land						
Nonforest with trees						
Cropland with trees	53.1	--	--	--	44.0	9.1
Improved pasture with trees	864.5	125.1	211.1	189.2	254.8	84.3
Wooded strips	295.1	19.0	27.3	26.4	210.0	12.4
Idle farmland with trees	11.5	3.9	--	3.5	--	4.1
Marsh with trees	2.0	2.0	--	--	--	--
Urban and other with trees	272.4	53.0	31.9	42.7	25.7	119.1
Windbreaks	66.6	--	6.4	12.0	29.1	19.1
Wooded pasture	412.2	39.6	111.8	52.0	178.9	29.9
Subtotal	1,977.4	242.6	388.5	325.8	742.5	278.0
Nonforest without trees						
Cropland	11,640.5	522.8	377.1	588.6	6,138.8	4,013.2
Improved pasture	13,780.0	804.4	1,803.9	1,500.9	8,833.4	837.4
Idle farmland	91.3	27.6	13.9	19.5	6.0	24.3
Marsh	12.3	--	--	5.1	1.2	6.0
Other farm-farmstead	446.2	31.6	47.3	42.3	265.8	59.2
Urban and other	2,090.7	196.3	187.4	181.8	988.0	537.2
Noncensus water	88.3	9.9	3.5	16.4	33.1	25.4
Subtotal	28,149.3	1,592.6	2,433.1	2,354.6	16,266.3	5,502.7
All nonforest land	30,126.7	1,835.2	2,821.6	2,680.4	17,008.8	5,780.7
Total land	44,124.9	6,135.5	5,435.0	4,993.8	19,541.3	8,019.3
Water	481.6	12.9	93.2	123.2	118.3	134.0
Total land and water	44,606.5	6,148.4	5,528.2	5,117.0	19,659.6	8,153.3

Table 30.--Area of timberland by ownership class, potential productivity class, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Unit and ownership class	All classes	Potential productivity class (cubic feet of growth per acre per year)				
		165+	120-164	85-119	50-84	20-49
All Units						
National forest	1,320.9	--	--	13.9	761.9	545.1
Miscellaneous federal	246.3	--	4.1	20.9	109.6	111.7
State	402.5	--	7.5	24.0	212.1	158.9
County and municipal	42.2	2.5	--	1.5	22.0	16.2
Forest industry	222.4	--	--	5.9	134.0	82.5
Farmer	5,023.8	5.1	57.2	257.7	2,294.4	2,409.4
Misc. private corporation	928.9	2.0	12.9	58.8	390.3	464.9
Misc. private individual	5,183.8	23.8	15.4	176.0	2,480.5	2,488.1
All owners	13,370.8	33.4	97.1	558.7	6,404.8	6,276.8
Eastern Ozarks Unit						
National forest	873.8	--	--	13.9	556.9	303.0
Miscellaneous federal	41.1	--	--	5.8	23.9	11.4
State	197.1	--	--	2.4	111.6	83.1
County and municipal	--	--	--	--	--	--
Forest industry	184.3	--	--	3.4	114.6	66.3
Farmer	934.9	--	3.4	21.9	418.2	491.4
Misc. private corporation	289.4	--	--	4.3	143.7	141.4
Misc. private individual	1,589.4	--	--	23.8	898.2	667.4
All owners	4,110.0	--	3.4	75.5	2,267.1	1,764.0
Southwest Ozarks Unit						
National forest	294.0	--	--	--	147.0	147.0
Miscellaneous federal	16.7	--	--	--	7.7	9.0
State	38.1	--	--	--	18.2	19.9
County and municipal	5.1	--	--	--	2.5	2.6
Forest industry	30.4	--	--	--	14.2	16.2
Farmer	1,205.2	--	7.3	16.4	589.5	592.0
Misc. private corporation	86.1	--	--	--	40.6	45.5
Misc. private individual	822.6	--	--	6.1	476.4	340.1
All owners	2,498.2	--	7.3	22.5	1,296.1	1,172.3
Northwest Ozarks Unit						
National forest	135.1	--	--	--	45.3	89.8
Miscellaneous federal	102.0	--	2.9	5.1	44.3	49.7
State	26.4	--	--	--	10.4	16.0
County and municipal	2.9	--	--	--	--	2.9
Forest industry	--	--	--	--	--	--
Farmer	800.6	--	2.9	19.1	290.1	488.5
Misc. private corporation	93.9	--	--	3.4	13.6	76.9
Misc. private individual	1,008.7	--	--	10.8	364.3	633.6
All owners	2,169.6	--	5.8	38.4	768.0	1,357.4
Prairie Unit						
National forest	--	--	--	--	--	--
Miscellaneous federal	77.6	--	--	8.3	33.7	35.6
State	53.7	--	1.6	4.3	29.0	18.8
County and municipal	25.8	2.5	--	1.5	12.3	9.5
Forest industry	--	--	--	--	--	--
Farmer	1,232.0	5.1	23.2	128.4	603.3	472.0
Misc. private corporation	272.7	2.0	8.3	50.1	106.3	106.0
Misc. private individual	838.5	6.7	12.4	86.9	391.3	341.2
All owners	2,500.3	16.3	45.5	279.5	1,175.9	983.1
Riverborder Unit						
National forest	18.0	--	--	--	12.7	5.3
Miscellaneous federal	8.9	--	1.2	1.7	--	6.0
State	87.2	--	5.9	17.3	42.9	21.1
County and municipal	8.4	--	--	--	7.2	1.2
Forest industry	7.7	--	--	2.5	5.2	--
Farmer	851.1	--	20.4	71.9	393.3	365.5
Misc. private corporation	186.8	--	4.6	1.0	86.1	95.1
Misc. private individual	924.6	17.1	3.0	48.4	350.3	505.8
All owners	2,092.7	17.1	35.1	142.8	897.7	1,000.0

Table 31.--Area of privately owned timberland by ownership class, owner tenure, and size of holding, Missouri, 1989

(In thousand acres)

Ownership class and owner tenure class	All sizes	Size of holding (acres)								
		1-4	5-10	11-20	21-50	51-100	101-500	501-2,500	2,501-5,000	5,001+
Forest industry										
1-4 years	17.2	--	--	--	3.3	--	2.0	--	--	11.9
5-9 years	13.9	--	--	--	--	--	--	5.2	--	8.7
10-19 years	24.6	--	--	--	--	3.0	--	2.6	--	19.0
20+ years	166.7	--	--	--	--	--	2.8	5.0	--	158.9
All classes	222.4	--	--	--	3.3	3.0	4.8	12.8	--	198.5
Farmer										
1-4 years	744.9	12.7	13.8	50.0	145.3	172.0	309.0	28.6	8.9	4.6
5-9 years	859.6	10.7	19.2	64.3	163.8	203.3	326.1	63.5	3.5	5.2
10-19 years	1,590.1	5.9	45.8	77.2	230.8	352.5	726.3	144.7	3.9	3.0
20+ years	1,829.2	13.7	33.5	116.0	328.6	407.8	796.5	117.1	5.2	10.8
All classes	5,023.8	43.0	112.3	307.5	868.5	1,135.6	2,157.9	353.9	21.5	23.6
Misc. private croporation										
1-4 years	275.3	10.3	5.1	4.2	16.6	28.7	135.5	28.3	15.1	31.5
5-9 years	146.6	--	--	13.8	19.2	16.9	68.0	9.6	1.4	17.7
10-19 years	254.9	1.8	--	20.1	34.3	31.0	112.6	20.8	2.4	31.9
20+ years	252.1	--	3.1	11.3	11.7	23.2	67.2	45.1	9.0	81.5
All classes	928.9	12.1	8.2	49.4	81.8	99.8	383.3	103.8	27.9	162.6
Misc. private individual										
1-4 years	1,239.6	35.6	55.6	141.9	337.7	266.1	358.1	40.0	2.4	2.2
5-9 years	1,054.6	41.1	76.5	56.4	312.3	210.1	300.8	43.1	6.7	7.6
10-19 years	1,638.4	45.0	63.1	158.6	426.6	336.0	549.3	51.5	--	8.3
20+ years	1,251.2	17.0	30.3	68.3	244.1	297.9	432.7	32.8	22.9	105.2
All classes	5,183.8	138.7	225.5	425.2	1,320.7	1,110.1	1,640.9	167.4	32.0	123.3
All private owners										
1-4 years	2,277.0	58.6	74.5	196.1	502.9	466.8	804.6	96.9	26.4	50.2
5-9 years	2,074.7	51.8	95.7	134.5	495.3	430.3	694.9	121.4	11.6	39.2
10-19 years	3,508.0	52.7	108.9	255.9	691.7	722.5	1,388.2	219.6	6.3	62.2
20+ years	3,499.2	30.7	66.9	195.6	584.4	728.9	1,299.2	200.0	37.1	356.4
All classes	11,358.9	193.8	346.0	782.1	2,274.3	2,348.5	4,186.9	637.9	81.4	508.0

Table 32.--Area of timberland in sawtimber stands by ownership class, stand volume class, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Unit and ownership class	All classes	Stand-volume class (board feet[1])		
		Less than 1,500	1,500 to 5,000	5,000 +
All Units				
National forest	690.6	30.8	512.6	147.2
Miscellaneous federal	117.8	27.3	69.6	20.9
State	234.8	29.8	155.4	49.6
County and municipal	25.4	4.2	19.9	1.3
Forest industry	110.8	8.1	87.0	15.7
Farmer	2,484.4	413.5	1,773.1	297.8
Misc. private corporation	448.1	91.1	294.4	62.6
Misc. private individual	2,492.7	382.2	1,842.6	267.9
All owners	6,604.6	987.0	4,754.6	863.0
Eastern Ozarks Unit				
National forest	467.8	4.3	349.3	114.2
Miscellaneous federal	26.0	3.3	13.6	9.1
State	102.4	7.1	84.5	10.8
County and municipal	--	--	--	--
Forest industry	92.1	5.1	79.3	7.7
Farmer	443.1	51.0	327.9	64.2
Misc. private corporation	130.3	9.6	93.4	27.3
Misc. private individual	722.7	60.6	587.8	74.3
All owners	1,984.4	141.0	1,535.8	307.6
Southwest Ozarks Unit				
National forest	150.1	18.3	101.1	30.7
Miscellaneous federal	7.7	--	7.7	--
State	26.3	9.8	16.5	--
County and municipal	2.5	--	2.5	--
Forest industry	11.0	3.0	5.2	2.8
Farmer	514.4	120.9	359.9	33.6
Misc. private corporation	38.3	13.6	24.7	--
Misc. private individual	335.9	84.1	232.1	19.7
All owners	1,086.2	249.7	749.7	86.8
Northwest Ozarks Unit				
National forest	66.8	8.2	56.3	2.3
Miscellaneous federal	37.8	11.1	23.8	2.9
State	7.7	5.0	2.7	--
County and municipal	2.9	2.9	--	--
Forest industry	--	--	--	--
Farmer	321.7	77.3	228.5	15.9
Misc. private corporation	43.4	25.4	18.0	--
Misc. private individual	485.6	137.6	323.5	24.5
All owners	965.9	267.5	652.8	45.6
Prairie Unit				
National forest	--	--	--	--
Miscellaneous federal	41.6	11.2	24.5	5.9
State	27.2	7.9	15.0	4.3
County and municipal	12.8	--	12.8	--
Forest industry	--	--	--	--
Farmer	679.5	111.4	468.7	99.4
Misc. private corporation	110.2	24.5	71.1	14.6
Misc. private individual	402.7	62.0	286.6	54.1
All owners	1,274.0	217.0	878.7	178.3
Riverborder Unit				
National forest	5.9	--	5.9	--
Miscellaneous federal	4.7	1.7	--	3.0
State	71.2	--	36.7	34.5
County and municipal	7.2	1.3	4.6	1.3
Forest industry	7.7	--	2.5	5.2
Farmer	525.7	52.9	388.1	84.7
Misc. private corporation	125.9	18.0	87.2	20.7
Misc. private individual	545.8	37.9	412.6	95.3
All owners	1,294.1	111.8	937.6	244.7

[1] International 1/4-inch rule.

Table 33.--Area of timberland by forest type, stand-size class, and ownership class, Missouri, 1989

(In thousand acres)

Forest type	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Shortleaf pine									
Sawtimber	140.3	81.1	--	7.6	--	5.4	24.4	6.3	15.5
Poletimber	80.6	44.2	3.5	9.1	--	2.4	10.8	--	10.6
Seedling-sapling	11.9	7.7	--	--	--	2.4	--	--	1.8
All stands	232.8	133.0	3.5	16.7	--	10.2	35.2	6.3	27.9
Eastern redcedar									
Sawtimber	68.5	--	--	--	--	--	23.5	5.2	39.8
Poletimber	41.6	1.3	--	2.3	--	--	20.4	3.1	14.5
Seedling-sapling	114.9	2.7	1.6	1.8	--	--	53.8	5.6	49.4
All stands	225.0	4.0	1.6	4.1	--	--	97.7	13.9	103.7
E. redcedar-hardwood									
Sawtimber	156.4	8.5	4.1	2.7	--	--	64.4	16.8	59.9
Poletimber	164.9	15.6	3.5	6.4	--	--	74.0	5.1	60.3
Seedling-sapling	167.6	2.3	3.5	--	--	--	74.6	13.0	74.2
All stands	488.9	26.4	11.1	9.1	--	--	213.0	34.9	194.4
Shortleaf pine-oak									
Sawtimber	196.4	72.2	--	5.3	--	17.1	52.7	3.3	45.8
Poletimber	120.8	43.8	--	3.7	--	8.0	13.2	--	52.1
Seedling-sapling	53.6	24.3	--	4.7	--	--	15.4	2.3	6.9
All stands	370.8	140.3	--	13.7	--	25.1	81.3	5.6	104.8
Post-blackjack oak									
Sawtimber	837.3	37.6	15.4	18.3	--	11.3	346.8	53.5	354.4
Poletimber	963.0	33.5	17.1	6.7	--	15.9	385.3	57.9	446.6
Seedling-sapling	630.2	37.1	5.8	7.3	2.6	5.2	260.1	29.7	282.4
All stands	2,430.5	108.2	38.3	32.3	2.6	32.4	992.2	141.1	1,083.4
Black-scarlet oak									
Sawtimber	2,485.6	362.1	31.3	99.0	9.2	52.8	813.7	134.8	982.7
Poletimber	1,356.1	127.1	30.4	50.4	4.5	30.7	420.1	81.8	611.1
Seedling-sapling	1,070.5	75.2	9.7	43.7	--	32.0	405.0	120.6	384.3
All stands	4,912.2	564.4	71.4	193.1	13.7	115.5	1,638.8	337.2	1,978.1
White oak									
Sawtimber	1,769.3	127.9	24.7	43.7	4.7	18.7	669.0	133.4	747.2
Poletimber	752.9	115.7	18.3	11.7	--	8.7	256.4	35.3	306.8
Seedling-sapling	429.9	70.9	5.2	9.4	5.0	6.3	155.2	25.1	152.8
All stands	2,952.1	314.5	48.2	64.8	9.7	33.7	1,080.6	193.8	1,206.8
Oak-gum-cypress									
Sawtimber	88.8	--	6.4	13.5	--	--	39.5	9.1	20.3
Poletimber	25.1	--	1.5	--	--	--	11.7	--	11.9
Seedling-sapling	3.4	--	1.5	--	--	--	--	--	1.9
All stands	117.3	--	9.4	13.5	--	--	51.2	9.1	34.1

(Table 33 continued on the next page)

(Table 33 continued)

Forest type	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Elm-ash-soft maple									
Sawtimber	440.3	--	30.7	25.1	6.2	2.5	240.4	33.9	101.5
Poletimber	97.6	--	--	1.6	--	--	52.3	18.1	25.6
Seedling-sapling	59.8	--	7.2	2.0	3.5	--	22.9	13.0	11.2
All stands	597.7	--	37.9	28.7	9.7	2.5	315.6	65.0	138.3
Cottonwood									
Sawtimber	29.3	--	2.8	--	2.8	--	14.1	1.3	8.3
Poletimber	--	--	--	--	--	--	--	--	--
Seedling-sapling	--	--	--	--	--	--	--	--	--
All stands	29.3	--	2.8	--	2.8	--	14.1	1.3	8.3
Maple-beech									
Sawtimber	392.4	1.2	2.4	19.6	2.5	3.0	195.9	50.5	117.3
Poletimber	274.4	13.3	5.2	1.3	--	--	154.2	23.2	77.2
Seedling-sapling	328.9	15.6	14.5	5.6	--	--	142.0	47.0	104.2
All stands	995.7	30.1	22.1	26.5	2.5	3.0	492.1	120.7	298.7
Nonstocked	18.5	--	--	--	1.2	--	12.0	--	5.3
All types									
Sawtimber	6,604.6	690.6	117.8	234.8	25.4	110.8	2,484.4	448.1	2,492.7
Poletimber	3,877.0	394.5	79.5	93.2	4.5	65.7	1,398.4	224.5	1,616.7
Seedling-sapling	2,870.7	235.8	49.0	74.5	11.1	45.9	1,129.0	256.3	1,069.1
Nonstocked	18.5	--	--	--	1.2	--	12.0	--	5.3
All stands	13,370.8	1,320.9	246.3	402.5	42.2	222.4	5,023.8	928.9	5,183.8

Table 34.--Area of timberland by forest type, stand-size class, and potential productivity class, Missouri, 1989

(In thousand acres)

Unit and ownership class	All classes	Potential productivity class (cubic feet of growth per acre per year)				
		165+	120-164	85-119	50-84	20-49
Shortleaf pine						
Sawtimber	140.3	--	--	--	--	140.3
Poletimber	80.6	--	--	--	--	80.6
Seedling-sapling	11.9	--	--	--	--	11.9
All stands	232.8	--	--	--	--	232.8
Eastern redcedar						
Sawtimber	68.5	--	--	--	--	68.5
Poletimber	41.6	--	--	--	--	41.6
Seedling-sapling	114.9	--	--	--	--	114.9
All stands	225.0	--	--	--	--	225.0
E. redcedar-hardwood						
Sawtimber	156.4	--	--	--	49.8	106.6
Poletimber	164.9	--	--	--	35.8	129.1
Seedling-sapling	167.6	--	--	--	48.2	119.4
All stands	488.9	--	--	--	133.8	355.1
Shortleaf pine-oak						
Sawtimber	196.4	--	--	--	113.0	83.4
Poletimber	120.8	--	--	--	72.7	48.1
Seedling-sapling	53.6	--	--	--	13.6	40.0
All stands	370.8	--	--	--	199.3	171.5
Post-blackjack oak						
Sawtimber	837.3	--	--	--	291.7	545.6
Poletimber	963.0	--	--	--	320.2	642.8
Seedling-sapling	630.2	--	--	--	233.0	397.2
All stands	2,430.5	--	--	--	844.9	1,585.6
Black-scarlet oak						
Sawtimber	2,485.6	--	--	68.2	1,651.4	766.0
Poletimber	1,356.1	--	--	16.2	973.3	366.6
Seedling-sapling	1,070.5	--	--	19.6	620.4	430.5
All stands	4,912.2	--	--	104.0	3,245.1	1,563.1
White oak						
Sawtimber	1,769.3	--	--	25.2	906.6	837.5
Poletimber	752.9	--	--	13.1	448.8	291.0
Seedling-sapling	429.9	--	--	2.7	210.2	217.0
All stands	2,952.1	--	--	41.0	1,565.6	1,345.5
Oak-gum-cypress						
Sawtimber	88.8	--	--	--	--	88.8
Poletimber	25.1	--	--	--	--	25.1
Seedling-sapling	3.4	--	--	--	--	3.4
All stands	117.3	--	--	--	--	117.3
Elm-ash-soft maple						
Sawtimber	440.3	--	53.5	175.4	157.7	53.7
Poletimber	97.6	--	8.9	27.8	32.1	28.8
Seedling-sapling	59.8	--	3.5	20.7	12.5	23.1
All stands	597.7	--	65.9	223.9	202.3	105.6
Cottonwood						
Sawtimber	29.3	--	7.2	13.8	4.8	3.5
Poletimber	--	--	--	--	--	--
Seedling-sapling	--	--	--	--	--	--
All stands	29.3	--	7.2	13.8	4.8	3.5
Maple-beech						
Sawtimber	392.4	24.1	14.1	103.4	105.8	145.0
Poletimber	274.4	2.5	--	49.6	48.8	173.5
Seedling-sapling	328.9	6.8	9.9	23.0	52.0	237.2
All stands	995.7	33.4	24.0	176.0	206.6	555.7
Nonstocked	18.5	--	--	--	2.4	16.1
All types						
Sawtimber	6,604.6	24.1	74.8	386.0	3,280.8	2,838.9
Poletimber	3,877.0	2.5	8.9	106.7	1,931.7	1,827.2
Seedling-sapling	2,870.7	6.8	13.4	66.0	1,189.9	1,594.6
Nonstocked	18.5	--	--	--	2.4	16.1
All stands	13,370.8	33.4	97.1	558.7	6,404.8	6,276.8

Table 35.--Area of timberland by forest type, stand-age class, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Unit and forest type	All classes	Stand-age class (years) 1-20	21- 40	41-60	61-80	81-100	101-120	121-140	141+
All Units									
Shortleaf pine	232.8	18.0	85.2	67.5	53.6	8.5	--	--	--
Eastern redcedar	225.0	104.4	26.9	37.3	24.0	24.6	3.8	4.0	--
E. redcedar-hardwood	488.9	163.3	61.7	105.9	76.1	60.0	21.9	--	--
Shortleaf pine-oak	370.8	49.1	51.6	177.4	67.8	13.7	11.2	--	--
Post-blackjack oak	2,430.5	578.0	386.5	636.2	447.3	217.0	130.2	35.3	--
Black-scarlet oak	4,912.2	983.3	826.9	1,365.0	1,025.6	571.9	119.5	13.5	6.5
White oak	2,952.1	379.2	282.5	752.2	639.9	553.3	257.1	65.3	22.6
Oak-gum-cypress	117.3	3.4	40.9	22.2	35.3	11.3	4.2	--	--
Elm-ash-soft maple	597.7	71.5	165.0	221.9	97.5	34.0	--	7.8	--
Cottonwood	29.3	--	10.6	3.7	15.0	--	--	--	--
Maple-beech	995.7	323.8	253.8	248.5	113.7	41.0	12.7	2.2	--
Nonstocked	18.5	18.5	--	--	--	--	--	--	--
All types	13,370.8	2,692.5	2,191.6	3,637.8	2,595.8	1,535.3	560.6	128.1	29.1
Eastern Ozarks Unit									
Shortleaf pine	133.1	9.2	38.9	34.4	42.1	8.5	--	--	--
Eastern redcedar	18.2	5.4	1.6	--	5.0	2.2	--	4.0	--
E. redcedar-hardwood	51.0	17.7	6.5	10.3	6.7	9.8	--	--	--
Shortleaf pine-oak	249.3	30.9	29.3	124.3	50.3	6.1	8.4	--	--
Post-blackjack oak	566.2	169.7	79.2	150.0	97.6	35.8	33.9	--	--
Black-scarlet oak	1,899.1	398.5	279.5	569.2	425.0	199.4	24.1	3.4	--
White oak	1,001.7	186.8	111.6	298.1	225.2	119.2	40.7	20.1	--
Oak-gum-cypress	9.7	--	6.6	3.1	--	--	--	--	--
Elm-ash-soft maple	48.4	3.8	14.0	25.5	5.1	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	129.5	64.4	23.6	30.9	7.8	2.8	--	--	--
Nonstocked	3.8	3.8	--	--	--	--	--	--	--
All types	4,110.0	890.2	590.8	1,245.8	864.8	383.8	107.1	27.5	--
Southwest Ozarks Unit									
Shortleaf pine	62.5	2.7	21.6	26.7	11.5	0.0	--	--	--
Eastern redcedar	53.7	24.5	10.1	4.9	9.3	4.9	--	--	--
E. redcedar-hardwood	179.3	73.3	22.3	38.2	18.1	21.7	5.7	--	--
Shortleaf pine-oak	109.8	18.2	20.5	49.3	13.7	5.3	2.8	--	--
Post-blackjack oak	633.0	156.6	118.4	143.1	109.3	52.7	38.1	14.8	--
Black-scarlet oak	995.3	211.5	205.1	269.5	192.3	95.1	21.8	--	--
White oak	342.3	49.7	46.7	108.7	67.1	51.2	18.9	--	--
Oak-gum-cypress	--	--	--	--	--	--	--	--	--
Elm-ash-soft maple	23.9	--	7.4	10.2	6.3	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	93.1	39.1	19.3	23.9	4.6	6.2	--	--	--
Nonstocked	5.3	5.3	--	--	--	--	--	--	--
All types	2,498.2	580.9	471.4	674.5	432.2	237.1	87.3	14.8	--

(Table 35 continued on next page)

(Table 35 continued)

Unit and forest type	All classes	Stand-age class (years) 1-20	21-40	41-60	61-80	81-100	101-120	121-140	141+
Northwest Ozarks Unit									
Shortleaf pine	32.0	6.1	19.5	6.4	--	--	--	--	--
Eastern redcedar	52.3	38.0	3.0	8.2	3.1	--	--	--	--
E. redcedar-hardwood	78.0	17.7	9.3	25.9	10.8	5.4	8.9	--	--
Shortleaf pine-oak	4.1	--	1.8	--	--	2.3	--	--	--
Post-blackjack oak	697.3	170.3	123.8	192.9	133.8	44.7	22.1	9.7	--
Black-scarlet oak	812.0	183.8	108.4	197.6	146.7	139.0	33.6	2.9	--
White oak	373.5	43.4	22.7	85.0	102.6	87.6	26.3	5.9	--
Oak-gum-cypress	3.5	1.9	--	--	--	1.6	--	--	--
Elm-ash-soft maple	39.2	3.6	3.4	17.9	10.9	3.4	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	77.7	27.2	21.5	14.6	14.4	--	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	2,169.6	492.0	313.4	548.5	422.3	284.0	90.9	18.5	--
Prairie Unit									
Shortleaf pine	--	--	--	--	--	--	--	--	--
Eastern redcedar	13.6	8.3	5.3	--	--	--	--	--	--
E. redcedar-hardwood	20.4	13.2	--	--	7.2	--	--	--	--
Shortleaf pine-oak	--	--	--	--	--	--	--	--	--
Post-blackjack oak	210.2	46.1	37.0	66.7	48.2	10.5	--	1.7	--
Black-scarlet oak	687.1	141.4	135.6	193.6	130.5	62.9	21.7	1.4	--
White oak	584.9	67.4	75.2	163.7	102.8	96.5	61.0	13.1	5.2
Oak-gum-cypress	81.2	--	24.1	13.4	31.3	8.2	4.2	--	--
Elm-ash-soft maple	348.4	55.0	84.3	126.9	53.8	28.4	--	--	--
Cottonwood	20.8	--	4.8	3.7	12.3	--	--	--	--
Maple-beech	528.4	161.7	135.6	150.9	60.8	12.9	4.3	2.2	--
Nonstocked	5.3	5.3	--	--	0.0	--	--	--	--
All types	2,500.3	498.4	501.9	718.9	446.9	219.4	91.2	18.4	5.2
Riverborder Unit									
Shortleaf pine	5.2	--	5.2	--	--	--	--	--	--
Eastern redcedar	87.2	28.2	6.9	24.2	6.6	17.5	3.8	--	--
E. redcedar-hardwood	160.2	41.4	23.6	31.5	33.3	23.1	7.3	--	--
Shortleaf pine-oak	7.6	--	--	3.8	3.8	--	--	--	--
Post-blackjack oak	323.8	35.3	28.1	83.5	58.4	73.3	36.1	9.1	--
Black-scarlet oak	518.7	48.1	98.3	135.1	131.1	75.5	18.3	5.8	6.5
White oak	649.7	31.9	26.3	96.7	142.2	198.8	110.2	26.2	17.4
Oak-gum-cypress	22.9	1.5	10.2	5.7	4.0	1.5	--	--	--
Elm-ash-soft maple	137.8	9.1	55.9	41.4	21.4	2.2	--	7.8	--
Cottonwood	8.5	--	5.8	--	2.7	--	--	--	--
Maple-beech	167.0	31.4	53.8	28.2	26.1	19.1	8.4	--	--
Nonstocked	4.1	4.1	--	--	--	--	--	--	--
All types	2,092.7	231.0	314.1	450.1	429.6	411.0	184.1	48.9	23.9

Table 36.--Area of timberland by forest type, site-index class, and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Unit and forest type	All classes	Site-index class (feet) 11-20	21-30	31- 40	41-50	51-60	61-70	71-80	81-90	91+
All Units										
Shortleaf pine	232.8	--	--	--	39.3	55.5	79.3	50.2	8.5	--
Eastern redcedar	225.0	--	25.8	88.4	59.5	25.0	21.1	5.2	--	--
E. redcedar-hardwood	488.9	--	18.9	143.9	114.9	84.4	75.0	42.0	9.8	--
Shortleaf pine-oak	370.8	--	--	18.3	48.4	117.9	121.7	49.6	14.9	--
Post-blackjack oak	2,430.5	--	5.4	191.1	599.3	889.1	537.6	177.1	30.9	--
Black-scarlet oak	4,912.2	--	1.6	53.6	437.1	1,312.5	1,674.0	1,059.1	299.8	74.5
White oak	2,952.1	--	3.4	74.4	408.9	993.9	923.8	419.7	103.0	25.0
Oak-gum-cypress	117.3	--	--	--	3.4	7.8	22.9	49.2	26.8	7.2
Elm-ash-soft maple	597.7	--	--	--	16.4	68.1	107.4	144.1	147.4	114.3
Cottonwood	29.3	--	--	--	--	3.5	4.8	--	5.8	15.2
Maple-beech	995.7	--	--	26.8	105.4	209.3	273.8	222.6	94.8	63.0
Nonstocked	18.5	--	1.9	--	8.2	3.1	5.3	--	--	--
All types	13,370.8	--	57.0	596.5	1,840.8	3,770.1	3,846.7	2,218.8	741.7	299.2
Eastern Ozarks Unit										
Shortleaf pine	133.1	--	--	--	30.2	28.0	39.5	35.4	--	--
Eastern redcedar	18.2	--	--	10.5	3.3	4.4	--	--	--	--
E. redcedar-hardwood	51.0	--	2.7	10.0	21.3	9.6	5.2	--	2.2	--
Shortleaf pine-oak	249.3	--	--	18.3	37.8	82.2	67.0	44.0	--	--
Post-blackjack oak	566.2	--	--	46.9	128.9	208.1	148.8	30.3	3.2	--
Black-scarlet oak	1,899.1	--	1.6	11.9	131.9	449.1	720.7	433.6	131.4	18.9
White oak	1,001.7	--	3.4	21.8	101.5	325.5	343.7	154.4	37.2	14.2
Oak-gum-cypress	9.7	--	--	--	--	--	--	7.5	2.2	--
Elm-ash-soft maple	48.4	--	--	--	1.6	8.1	7.7	9.9	12.8	8.3
Cottonwood	--	--	--	--	--	--	--	--	--	--
Maple-beech	129.5	--	--	9.3	18.4	43.2	37.3	15.4	5.9	--
Nonstocked	3.8	--	1.9	--	--	1.9	--	--	--	--
All types	4,110.0	--	9.6	128.7	474.9	1,160.1	1,369.9	730.5	194.9	41.4
Southwest Ozarks Unit										
Shortleaf pine	62.5	--	--	--	5.6	13.3	29.8	5.3	8.5	--
Eastern redcedar	53.7	--	9.7	26.0	18.0	--	--	--	--	--
E. redcedar-hardwood	179.3	--	12.0	71.2	44.1	17.7	12.4	18.8	3.1	--
Shortleaf pine-oak	109.8	--	--	--	10.6	31.9	52.9	5.6	8.8	--
Post-blackjack oak	633.0	--	2.6	35.0	124.5	228.9	160.2	59.2	22.6	--
Black-scarlet oak	995.3	--	--	11.5	66.5	261.1	359.1	246.0	42.3	8.8
White oak	342.3	--	--	--	38.0	139.5	118.6	28.5	14.9	2.8
Oak-gum-cypress	--	--	--	--	--	--	--	--	--	--
Elm-ash-soft maple	23.9	--	--	--	--	7.2	5.8	3.5	3.8	3.6
Cottonwood	--	--	--	--	--	--	--	--	--	--
Maple-beech	93.1	--	--	8.9	12.2	29.4	28.1	10.8	--	3.7
Nonstocked	5.3	--	--	--	2.9	--	2.4	--	--	--
All types	2,498.2	--	24.3	152.6	322.4	729.0	769.3	377.7	104.0	18.9

(Table 36 continued on next page)

(Table 36 continued)

Unit and forest type	All classes	Site-index class (feet) 11-20	21-30	31- 40	41-50	51-60	61-70	71-80	81-90	91+
Northwest Ozarks Unit										
Shortleaf pine	32.0	--	--	--	3.5	14.2	10.0	4.3	--	--
Eastern redcedar	52.3	--	7.4	23.6	10.3	8.8	2.2	--	--	--
E. redcedar-hardwood	78.0	--	4.2	20.4	16.9	13.0	17.0	5.0	1.5	--
Shortleaf pine-oak	4.1	--	--	--	--	--	1.8	--	2.3	--
Post-blackjack oak	697.3	--	--	74.9	199.9	250.6	104.5	64.7	2.7	--
Black-scarlet oak	812.0	--	--	3.8	153.6	319.0	243.5	84.2	7.9	--
White oak	373.5	--	--	14.0	78.6	159.3	93.4	23.7	4.5	--
Oak-gum-cypress	3.5	--	--	--	--	3.5	--	--	--	--
Elm-ash-soft maple	39.2	--	--	--	--	9.4	4.7	6.5	6.3	12.3
Cottonwood	--	--	--	--	--	--	--	--	--	--
Maple-beech	77.7	--	--	--	14.6	29.9	12.1	18.6	2.5	--
Nonstocked	--	--	--	--	--	--	--	--	--	--
All types	2,169.6	--	11.6	136.7	477.4	807.7	489.2	207.0	27.7	12.3
Prairie Unit										
Shortleaf pine	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	13.6	--	--	5.1	3.2	2.4	--	2.9	--	--
E. redcedar-hardwood	20.4	--	--	3.5	5.5	3.7	5.7	2.0	--	--
Shortleaf pine-oak	--	--	--	--	--	--	--	--	--	--
Post-blackjack oak	210.2	--	--	12.5	49.9	79.3	50.3	15.8	2.4	--
Black-scarlet oak	687.1	--	--	15.4	44.6	168.7	197.0	170.8	57.6	33.0
White oak	584.9	--	--	10.7	76.3	165.3	204.7	100.5	22.2	5.2
Oak-gum-cypress	81.2	--	--	--	3.4	4.3	19.9	39.2	14.4	--
Elm-ash-soft maple	348.4	--	--	--	10.9	41.9	69.0	91.4	89.9	45.3
Cottonwood	20.8	--	--	--	--	3.5	2.0	--	3.1	12.2
Maple-beech	528.4	--	--	4.4	51.8	81.6	162.4	138.1	52.8	37.3
Nonstocked	5.3	--	--	--	5.3	--	--	--	--	--
All types	2,500.3	--	--	51.6	250.9	550.7	711.0	560.7	242.4	133.0
Riverborder Unit										
Shortleaf pine	5.2	--	--	--	--	--	--	5.2	--	--
Eastern redcedar	87.2	--	8.7	23.2	24.7	9.4	18.9	2.3	--	--
E. redcedar-hardwood	160.2	--	--	38.8	27.1	40.4	34.7	16.2	3.0	--
Shortleaf pine-oak	7.6	--	--	--	--	3.8	--	--	3.8	--
Post-blackjack oak	323.8	--	2.8	21.8	96.1	122.2	73.8	7.1	--	--
Black-scarlet oak	518.7	--	--	11.0	40.5	114.6	153.7	124.5	60.6	13.8
White oak	649.7	--	--	27.9	114.5	204.3	163.4	112.6	24.2	2.8
Oak-gum-cypress	22.9	--	--	--	--	--	3.0	2.5	10.2	7.2
Elm-ash-soft maple	137.8	--	--	--	3.9	1.5	20.2	32.8	34.6	44.8
Cottonwood	8.5	--	--	--	--	--	2.8	--	2.7	3.0
Maple-beech	167.0	--	--	4.2	8.4	25.2	33.9	39.7	33.6	22.0
Nonstocked	4.1	--	--	--	--	1.2	2.9	--	--	--
All types	2,092.7	--	11.5	126.9	315.2	522.6	507.3	342.9	172.7	93.6

Table 37.--Area of timberland by forest type, basal-area class, and stand-size class, Missouri, 1989

(In thousand acres)

Unit and forest type	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31- 40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Shortleaf pine															
Sawtimber	140.3	--	--	--	3.2	9.1	5.1	3.1	27.0	13.1	4.7	36.7	29.9	5.4	3.0
Poletimber	80.6	--	--	--	--	--	--	3.3	16.2	7.6	4.3	19.3	17.1	6.7	6.1
Seedling and sapling	11.9	--	--	--	--	--	2.4	2.7	6.8	--	--	--	--	--	--
Total	232.8	--	--	--	3.2	9.1	7.5	9.1	50.0	20.7	9.0	56.0	47.0	12.1	9.1
Eastern redcedar															
Sawtimber	68.5	--	--	6.8	3.3	2.2	5.5	5.1	3.4	15.4	12.5	11.5	2.8	--	--
Poletimber	41.6	--	--	--	--	--	16.1	3.4	--	9.6	5.2	7.3	--	--	--
Seedling and sapling	114.9	3.6	17.1	13.6	5.5	31.8	14.7	16.1	9.4	--	3.1	--	--	--	--
Total	225.0	3.6	17.1	20.4	8.8	34.0	36.3	24.6	12.8	25.0	20.8	18.8	2.8	--	--
E. redcedar-hardwood															
Sawtimber	156.4	--	--	--	2.9	5.6	13.7	27.4	39.1	35.0	12.4	18.9	1.4	--	--
Poletimber	164.9	--	--	--	--	5.0	10.4	10.9	46.6	40.6	14.3	37.1	--	--	--
Seedling and sapling	167.6	4.5	6.1	43.0	11.3	35.3	30.9	15.2	11.1	2.1	5.4	2.7	--	--	--
Total	488.9	4.5	6.1	43.0	14.2	45.9	55.0	53.5	96.8	77.7	32.1	58.7	1.4	--	--
Shortleaf pine-oak															
Sawtimber	196.4	--	--	--	--	13.7	14.7	11.5	15.9	50.4	38.8	48.8	2.6	--	--
Poletimber	120.8	--	--	--	--	--	7.4	5.1	13.1	20.4	28.2	40.7	5.9	--	--
Seedling and sapling	53.6	--	--	15.5	2.3	3.9	11.6	2.4	--	8.9	3.0	6.0	--	--	--
Total	370.8	--	--	15.5	2.3	17.6	33.7	19.0	29.0	79.7	70.0	95.5	8.5	--	--
Post-blackjack oak															
Sawtimber	837.3	--	--	10.0	--	53.5	120.9	85.6	146.6	179.9	102.2	121.2	17.4	--	--
Poletimber	963.0	--	5.0	--	9.2	29.0	104.3	111.7	186.1	219.6	114.9	151.1	32.1	--	--
Seedling and sapling	630.2	28.4	49.7	66.5	69.9	125.8	133.1	49.6	64.1	15.0	27.3	0.8	--	--	--
Total	2,430.5	28.4	54.7	76.5	79.1	208.3	358.3	246.9	396.8	414.5	244.4	273.1	49.5	--	--
Black-scarlet oak															
Sawtimber	2,485.6	--	1.2	1.9	7.9	88.0	244.6	334.0	429.3	583.9	300.3	415.8	65.5	13.2	--
Poletimber	1,356.1	--	--	8.0	20.5	64.9	150.4	160.6	286.2	283.1	188.1	164.0	30.3	--	--
Seedling and sapling	1,070.5	49.1	60.2	108.9	106.8	194.3	254.8	136.5	95.4	56.2	8.3	--	--	--	--
Total	4,912.2	49.1	61.4	118.8	135.2	347.2	649.8	631.1	810.9	923.2	496.7	579.8	95.8	13.2	--
White oak															
Sawtimber	1,769.3	--	0.7	--	7.2	68.4	171.6	191.7	368.5	417.0	170.4	309.7	59.9	4.2	--
Poletimber	752.9	--	--	--	--	41.2	76.4	106.7	182.0	120.0	131.3	82.9	12.4	--	--
Seedling and sapling	429.9	16.2	20.0	56.2	49.6	83.8	98.2	51.5	44.2	5.1	--	5.1	--	--	--
Total	2,952.1	16.2	20.7	56.2	56.8	193.4	346.2	349.9	594.7	542.1	301.7	397.7	72.3	4.2	--

(Table 37 continued on next page)

(Table 37 continued)

Unit and forest type	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Oak-gum-cypress															
Sawtimber	88.8	--	--	--	2.1	14.5	14.9	5.5	6.8	4.7	9.6	22.0	8.7	--	--
Poletimber	25.1	--	--	--	--	1.7	4.4	--	1.0	--	3.4	11.7	2.9	--	--
Seedling and sapling	3.4	--	1.9	--	--	--	--	1.5	--	--	--	--	--	--	--
Total	117.3	--	1.9	--	2.1	16.2	19.3	7.0	7.8	4.7	13.0	33.7	11.6	--	--
Elm-ash-soft maple															
Sawtimber	440.3	--	3.5	15.4	12.6	17.5	35.8	43.8	63.9	49.6	35.1	94.6	55.4	13.1	--
Poletimber	97.6	--	5.0	--	8.3	1.7	6.8	10.6	25.1	18.3	8.7	3.4	9.7	--	--
Seedling and sapling	59.8	1.2	3.9	13.7	8.7	11.3	13.2	2.8	1.5	--	3.5	--	--	--	--
Total	597.7	1.2	12.4	29.1	29.6	30.5	55.8	57.2	90.5	67.9	47.3	98.0	65.1	13.1	--
Cottonwood															
Sawtimber	29.3	--	--	2.0	--	2.8	--	3.5	--	1.8	--	3.0	7.7	5.8	2.7
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Seedling and sapling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	29.3	--	--	2.0	--	2.8	--	3.5	--	1.8	--	3.0	7.7	5.8	2.7
Maple-beech															
Sawtimber	392.4	--	--	4.8	1.8	41.4	58.7	31.5	95.8	70.3	24.2	59.9	2.2	1.8	--
Poletimber	274.4	--	--	1.3	1.8	36.7	53.3	32.4	42.3	38.6	28.1	26.2	13.7	--	--
Seedling and sapling	328.9	5.0	43.7	40.6	39.4	72.2	58.8	22.5	23.2	16.4	2.8	4.3	--	--	--
Total	995.7	5.0	43.7	46.7	43.0	150.3	170.8	86.4	161.3	125.3	55.1	90.4	15.9	1.8	--
Nonstocked	18.5	13.5	--	1.9	1.2	--	--	--	1.9	--	--	--	--	--	--
All types															
Sawtimber	6,604.6	--	5.4	40.9	41.0	316.7	685.5	742.7	1,196.3	1,421.1	710.2	1,142.1	253.5	43.5	5.7
Poletimber	3,877.0	--	10.0	9.3	39.8	180.2	429.5	444.7	798.6	757.8	526.5	543.7	124.1	6.7	6.1
Seedling and sapling	2,870.7	108.0	202.6	358.0	293.5	558.4	617.7	300.8	255.7	103.7	53.4	18.9	--	--	--
Nonstocked	18.5	13.5	--	1.9	1.2	--	--	--	1.9	--	--	--	--	--	--
All stands	13,370.8	121.5	218.0	410.1	375.5	1,055.3	1,732.7	1,488.2	2,252.5	2,282.6	1,290.1	1,704.7	377.6	50.2	11.8

Table 38.--Area of timberland by stocking class based on selected stand components and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Stocking class (percent)	Stocking classified in terms of: All live trees	Growing-stock trees	Rough and rotten trees
All Units			
0-10	11.3	45.1	1,439.7
11-20	12.0	227.0	2,120.1
21-30	23.6	565.0	2,706.0
31-40	24.7	813.1	2,766.3
41-50	76.2	1,181.7	1,987.0
51-60	258.8	1,578.6	1,266.3
61-70	437.4	1,773.3	744.4
71-80	845.2	1,789.1	253.1
81-90	1,164.4	1,883.2	43.0
91-100	1,920.3	1,497.6	24.9
101-110	2,700.4	911.1	18.6
111-120	2,728.6	573.9	1.4
121-130	1,901.1	282.8	--
131-140	861.5	158.3	--
141-150	336.6	58.5	--
151-160	54.4	21.6	--
161+	14.3	10.9	--
All classes	13,370.8	13,370.8	13,370.8
Eastern Ozarks Unit			
0-10	1.9	5.5	692.8
11-20	5.2	35.3	956.1
21-30	4.5	124.8	981.3
31-40	--	194.6	721.2
41-50	36.3	257.2	400.8
51-60	63.1	378.2	252.3
61-70	137.0	436.0	89.6
71-80	273.7	523.0	13.9
81-90	353.8	620.0	--
91-100	594.5	614.9	2.0
101-110	812.2	411.6	--
111-120	849.0	263.3	--
121-130	606.1	140.6	--
131-140	252.8	69.9	--
141-150	102.2	20.5	--
151-160	5.1	5.4	--
161+	12.6	9.2	--
All classes	4,110.0	4,110.0	4,110.0
Southwest Ozarks Unit			
0-10	2.9	8.0	280.0
11-20	2.4	52.3	315.2
21-30	1.9	124.8	469.3
31-40	1.2	138.6	585.6
41-50	3.9	237.2	402.8
51-60	51.2	315.8	247.7
61-70	94.7	320.2	143.2
71-80	155.2	330.4	46.1
81-90	205.0	360.6	2.6
91-100	401.5	248.7	2.7
101-110	511.7	127.8	1.6
111-120	494.9	110.6	1.4
121-130	311.7	52.3	--
131-140	154.9	43.3	--
141-150	80.0	19.4	--
151-160	23.4	6.5	--
161+	1.7	1.7	--
All classes	2,498.2	2,498.2	2,498.2

(Table 38 continued on next page)

(Table 38 continued)

Stocking class (percent)	Stocking classified in terms of: All live trees	Growing-stock trees	Rough and rotten trees
Northwest Ozarks Unit			
0-10	--	2.1	151.2
11-20	--	27.7	279.6
21-30	--	85.0	317.5
31-40	4.0	143.0	514.3
41-50	5.2	215.9	365.1
51-60	7.1	293.2	293.7
61-70	37.5	305.8	153.1
71-80	96.3	320.5	54.9
81-90	222.9	306.4	23.6
91-100	312.8	222.0	10.3
101-110	496.1	106.7	6.3
111-120	426.3	64.2	--
121-130	315.1	39.0	--
131-140	155.6	20.2	--
141-150	77.5	9.7	--
151-160	13.2	8.2	--
161+	--	--	--
All classes	2,169.6	2,169.6	2,169.6
Prairie Unit			
0-10	5.3	16.0	119.4
11-20	1.5	95.5	298.8
21-30	10.9	186.4	462.5
31-40	7.3	259.8	545.7
41-50	28.6	272.6	480.1
51-60	94.8	366.7	249.8
61-70	118.0	386.7	218.7
71-80	238.1	289.9	97.7
81-90	276.1	250.6	10.5
91-100	347.7	168.9	6.4
101-110	439.4	127.3	10.7
111-120	429.7	52.6	--
121-130	310.8	14.4	--
131-140	155.1	9.2	--
141-150	31.5	2.2	--
151-160	5.5	1.5	--
161+	--	--	--
All classes	2,500.3	2,500.3	2,500.3
Riverborder Unit			
0-10	1.2	13.5	196.3
11-20	2.9	16.2	270.4
21-30	6.3	44.0	475.4
31-40	12.2	77.1	399.5
41-50	2.2	198.8	338.2
51-60	42.6	224.7	222.8
61-70	50.2	324.6	139.8
71-80	81.9	325.3	40.5
81-90	106.6	345.6	6.3
91-100	263.8	243.1	3.5
101-110	441.0	137.7	--
111-120	528.7	83.2	--
121-130	357.4	36.5	--
131-140	143.1	15.7	--
141-150	45.4	6.7	--
151-160	7.2	--	--
161+	--	--	--
All classes	2,092.7	2,092.7	2,092.7

Table 39.--Area of timberland in plantations by forest type, stand-age class, Missouri, 1989

(In thousand acres)

Forest type	All classes	Stand-age class (years)						
		1-10	11-20	21-30	31- 40	41-50	51-60	61+
White pine	9.5	--	--	--	9.5	--	--	--
Shortleaf pine	44.2	--	6.1	19.1	11.7	6.4	0.9	--
All types	53.7	--	6.1	19.1	21.2	6.4	0.9	--

Table 40.--Area of reserved forest land by ownership class and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Ownership class	All Units	Forest Survey Unit				
		Eastern Ozarks	Southwest Ozarks	Northwest Ozarks	Prairie	Riverborder
National forest	79.0	38.3	40.7	--	--	--
Miscellaneous federal	92.1	83.7	2.6	1.7	4.1	--
State	112.4	34.3	6.9	25.5	10.7	35.0
County and municipal	26.8	--	--	--	1.6	25.2
Forest industry	--	--	--	--	--	--
Farmer	2.8	2.1	--	--	--	0.7
Misc. private corporation	3.1	--	2.6	--	0.5	--
Misc. private individual	--	--	--	--	--	--
All owners	316.2	158.4	52.8	27.2	16.9	60.9

Table 41.--Area of reserved forest land by forest type and Forest Survey Unit, Missouri, 1989

(In thousand acres)

Forest type	All Units	Forest Survey Unit				
		Eastern Ozarks	Southwest Ozarks	Northwest Ozarks	Prairie	Riverborder
Shortleaf pine	8.5	5.9	2.6	--	--	--
Eastern redcedar	0.8	--	0.8	--	--	--
E. redcedar-hardwood	8.7	3.2	4.4	1.1	--	--
Shortleaf pine-oak	7.2	5.6	1.6	--	--	--
Post-blackjack oak	92.8	60.2	32.6	--	--	--
Black-scarlet oak	157.6	66.9	10.8	24.4	12.1	43.4
White oak	8.2	1.4	--	--	3.2	3.6
Oak-gum-cypress	--	--	--	--	--	--
Elm-ash-soft maple	23.7	12.9	--	1.7	1.6	7.5
Cottonwood	6.4	--	--	--	--	6.4
Maple-beech	2.3	2.3	--	--	--	--
Nonstocked	--	--	--	--	--	--
All types	316.2	158.4	52.8	27.2	16.9	60.9

Table 42.--Net volume of growing stock on timberland by species group and Forest Survey Unit, Missouri, 1972 and 1989

(In thousand cubic feet)

Species group	All Units		Eastern Ozarks Unit		Southwest Ozarks Unit		Northwest Ozarks Unit		Prairie Unit		Riverborder Unit	
	1972	1989	1972	1989	1972	1989	1972	1989	1972	1989	1972	1989
Softwoods												
White pine	--	13,843	--	--	--	--	--	--	--	--	--	13,843
Shortleaf pine	425,583	618,365	313,587	412,941	104,958	153,299	5,489	43,922	--	--	1,549	8,203
Other yellow pines	--	1,751	--	1,581	--	170	--	--	--	--	--	--
Baldcypress	11,758	12,717	--	117	--	--	--	--	--	--	11,758	12,600
Eastern redcedar	59,971	212,266	7,831	22,369	15,681	48,318	4,262	32,138	3,147	8,605	29,050	100,836
Other softwoods	--	462	--	--	--	--	--	--	--	--	--	462
Total	497,312	859,404	321,418	437,008	120,639	201,787	9,751	76,060	3,147	8,605	42,357	135,944
Hardwoods												
Select white oak	1,604,371	2,210,089	518,739	799,783	177,331	266,673	204,474	275,520	255,622	356,674	448,205	511,439
Other white oak	685,342	878,686	194,983	229,261	143,610	178,765	140,270	217,736	61,063	71,494	145,416	181,430
Select red oak	325,686	375,435	69,609	71,431	57,294	54,455	35,460	61,040	61,577	90,844	101,746	97,665
Other red oak	1,898,816	2,450,398	948,985	1,098,469	345,610	514,709	236,500	324,964	183,716	256,946	184,005	255,310
Select hickory	315,491	459,721	81,163	96,767	33,832	49,017	23,961	46,930	99,168	161,224	77,367	105,783
Other hickory	293,278	422,871	129,027	183,425	51,641	62,435	34,376	47,580	25,596	60,276	52,638	69,155
Basswood	8,667	14,392	--	--	534	436	--	--	7,166	12,050	967	1,906
Beech	334	513	--	--	--	--	--	--	--	--	334	513
Hard maple	44,272	66,714	7,879	19,375	4,441	1,709	285	1,974	6,819	10,986	24,848	32,670
Soft maple	65,045	123,649	3,866	8,105	256	2,691	2,996	5,727	48,012	85,549	9,915	21,577
Elm	94,725	124,681	21,556	17,875	6,903	9,596	4,468	9,222	35,168	60,106	26,630	27,882
Ash	109,868	146,484	12,771	12,664	11,303	12,916	5,688	12,997	36,084	51,447	44,022	56,460
Sycamore	139,247	180,928	27,734	39,952	9,610	13,628	27,686	32,229	37,356	57,714	36,861	37,405
Cottonwood	71,250	159,145	2,307	1,968	--	--	--	725	32,804	105,109	36,139	51,343
Willow	76,669	79,522	3,680	3,329	--	--	775	2,430	11,147	10,330	61,067	63,433
Hackberry	39,052	91,834	2,629	6,536	2,417	7,349	3,574	7,611	18,599	56,210	11,833	14,128
Aspen	122	393	--	--	--	--	--	--	--	--	122	393
Birch	27,780	29,126	5,029	6,274	--	--	633	150	18,221	17,048	3,897	5,654
Sweetgum	9,157	10,067	4,221	5,294	--	--	--	--	--	--	4,936	4,773
Tupelo	21,687	36,122	10,041	18,445	1,835	5,602	2,404	2,626	--	--	7,407	9,449
Black cherry	9,028	18,947	2,008	2,737	818	2,279	782	1,321	2,835	7,060	2,585	5,550
Black walnut	102,857	147,241	13,001	15,111	13,026	19,489	10,058	20,457	44,514	68,361	22,258	23,823
Butternut	1,571	1,264	192	387	392	--	576	151	--	556	411	170
Yellow-poplar	1,738	3,923	--	284	--	--	--	--	--	--	1,738	3,639
Persimmon	3,600	6,739	818	1,048	458	577	--	1,059	405	1,165	1,919	2,890
Sassafras	1,571	5,717	329	1,672	220	1,263	614	678	--	331	408	1,773
Other hardwoods	53,062	84,562	12,330	11,075	5,744	6,515	1,820	3,440	18,388	42,942	14,780	20,590
Total	6,004,286	8,129,163	2,072,897	2,651,267	867,275	1,210,104	737,400	1,076,567	1,004,260	1,584,422	1,322,454	1,606,803
All species	6,501,598	8,988,567	2,394,315	3,088,275	987,914	1,411,891	747,151	1,152,627	1,007,407	1,593,027	1,364,811	1,742,747

Table 43.--Net volume of sawtimber on timberland by species group and Forest Survey Unit, Missouri, 1972 and 1989

(In thousand board feet) [1]

Species group	All Units		Eastern Ozarks Unit		Southwest Ozarks Unit		Northwest Ozarks Unit		Prairie Unit		Riverborder Unit	
	1972	1989	1972	1989	1972	1989	1972	1989	1972	1989	1972	1989
Softwoods												
White pine	--	54,123	--	--	--	--	--	--	--	--	--	54,123
Shortleaf pine	1,382,561	2,182,900	1,031,521	1,551,215	320,203	543,821	27,632	64,172	--	--	3,205	23,692
Other yellow pines	--	4,219	--	4,219	--	--	--	--	--	--	--	--
Baldcypress	41,334	61,836	--	--	--	--	--	--	--	--	41,334	61,836
Eastern redcedar	105,691	443,037	17,483	49,104	11,285	55,254	8,986	46,537	10,467	17,887	57,470	274,255
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--
Total	1,529,586	2,746,115	1,049,004	1,604,538	331,488	599,075	36,618	110,709	10,467	17,887	102,009	413,906
Hardwoods												
Select white oak	4,307,094	6,663,522	1,136,971	2,065,696	452,885	727,867	552,271	842,328	797,493	1,223,399	1,367,474	1,804,232
Other white oak	1,357,023	1,795,097	391,807	463,499	338,947	370,006	251,304	389,374	122,077	154,509	252,888	417,709
Select red oak	1,110,833	1,389,537	221,004	236,655	187,360	191,538	110,738	228,575	212,005	340,220	379,726	392,549
Other red oak	5,106,854	7,435,836	2,467,579	3,316,332	953,385	1,474,548	653,646	901,420	527,495	866,792	504,749	876,744
Select hickory	703,911	983,474	149,672	207,244	70,374	92,842	52,458	88,670	239,641	348,785	191,766	245,933
Other hickory	525,525	846,489	255,224	399,036	94,536	96,552	57,489	60,408	19,274	110,820	99,002	179,673
Basswood	28,942	57,911	--	--	--	2,198	--	--	25,026	49,051	3,916	6,662
Beech	1,667	2,228	--	--	--	--	--	--	--	--	1,667	2,228
Hard maple	86,823	140,069	21,106	38,522	13,077	4,786	--	3,829	17,188	25,637	35,452	67,295
Soft maple	214,097	410,973	9,190	28,195	1,122	8,202	7,277	23,273	161,798	296,725	34,710	54,578
Elm	182,816	174,714	45,195	21,611	10,208	4,710	6,318	8,233	72,540	94,155	48,555	46,005
Ash	254,536	384,050	26,659	32,467	31,919	34,867	12,777	23,248	78,263	124,981	104,918	168,487
Sycamore	520,318	707,601	86,948	148,340	30,590	47,519	97,299	115,667	160,488	236,382	144,993	159,693
Cottonwood	268,143	728,138	10,736	10,069	--	--	--	3,326	150,005	472,320	107,402	242,423
Willow	147,326	317,166	13,246	15,216	--	--	325	6,292	22,194	24,325	111,561	271,333
Hackberry	91,483	222,899	3,306	16,884	7,867	17,633	7,785	24,138	42,100	130,372	30,425	33,872
Aspen	--	--	--	--	--	--	--	--	--	--	--	--
Birch	65,844	85,266	15,478	18,513	--	--	2,643	--	42,104	48,117	5,619	18,636
Sweetgum	16,224	26,234	4,832	7,482	--	--	--	--	--	--	11,392	18,752
Tupelo	58,230	94,877	31,463	40,787	1,838	9,026	5,539	11,278	--	--	19,390	33,786
Black cherry	24,809	38,837	5,163	4,708	2,464	5,319	2,472	2,096	4,658	13,294	10,052	13,420
Black walnut	262,772	398,282	23,586	30,942	29,281	53,197	20,827	55,924	124,227	185,089	64,851	73,130
Butternut	1,050	3,494	--	673	1,050	--	--	700	--	2,121	--	--
Yellow-poplar	7,122	17,282	--	1,387	--	--	--	--	--	--	7,122	15,895
Persimmon	1,499	1,566	--	--	--	--	--	--	--	--	1,499	1,566
Sassafras	1,499	5,196	--	--	--	2,870	1,499	--	--	565	--	1,761
Other hardwoods	140,863	206,769	39,041	25,625	17,579	17,845	5,369	6,761	37,148	103,260	41,726	53,278
Total	15,487,303	23,137,507	4,958,206	7,129,883	2,244,482	3,161,525	1,848,036	2,795,540	2,855,724	4,850,919	3,580,855	5,199,640
All species	17,016,889	25,883,622	6,007,210	8,734,421	2,575,970	3,760,600	1,884,654	2,906,249	2,866,191	4,868,806	3,682,864	5,613,546

[1] International 1/4-inch rule.

Table 44.--Net volume of all live trees[1] on timberland by species group and diameter class, Missouri, 1989

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods											
White pine	13,843	935	1,528	1,836	5,660	3,048	836	--	--	--	--
Shortleaf pine	637,577	81,041	122,394	137,055	128,593	94,823	45,747	18,501	8,814	391	218
Other yellow pines	1,897	--	895	1,002	--	--	--	--	--	--	--
Baldcypress	14,600	117	63	181	--	539	996	2,476	879	7,828	1,521
Eastern redcedar	266,753	77,101	72,778	51,683	31,449	20,383	8,406	3,282	783	888	--
Other softwoods	576	114	462	--	--	--	--	--	--	--	--
Total	935,246	159,308	198,120	191,757	165,702	118,793	55,985	24,259	10,476	9,107	1,739
Hardwoods											
Select white oak	3,296,661	253,491	351,543	482,275	517,407	520,556	439,436	291,892	166,568	233,262	40,231
Other white oak	1,580,816	203,344	276,913	272,485	256,667	221,387	158,235	83,019	48,868	55,005	4,893
Select red oak	591,202	21,618	39,203	64,736	88,620	79,362	82,284	66,821	45,028	81,865	21,665
Other red oak	3,704,277	297,607	433,984	555,074	610,397	595,248	453,731	282,035	177,564	257,101	41,536
Select hickory	625,839	100,411	120,175	112,748	97,821	74,182	53,664	27,851	15,134	21,682	2,171
Other hickory	602,153	102,468	124,273	122,240	105,754	70,297	41,612	20,254	9,903	5,352	--
Basswood	29,530	1,171	2,252	4,106	3,085	4,714	3,854	2,530	2,977	4,036	805
Beech	1,591	62	--	--	104	118	294	257	158	431	167
Hard maple	149,952	21,795	25,176	26,467	23,196	21,302	12,169	7,455	5,723	4,894	1,775
Soft maple	231,692	16,341	13,868	22,334	23,316	25,485	18,556	28,302	17,415	46,150	19,925
Elm	281,177	78,049	64,529	45,992	37,071	22,614	13,177	7,939	2,816	8,605	385
Ash	273,093	38,349	45,103	42,429	48,526	36,597	26,596	13,035	9,170	11,625	1,663
Sycamore	230,349	6,067	11,133	17,518	24,996	22,287	22,841	32,148	20,164	51,426	21,769
Cottonwood	192,222	962	3,193	5,261	8,352	13,741	11,130	11,931	14,659	59,670	63,323
Willow	117,479	4,656	6,678	5,655	13,795	18,019	17,712	18,227	14,261	17,745	731
Hackberry	159,736	22,550	21,861	25,658	23,858	22,718	13,469	11,372	7,939	8,328	1,983
Aspen	393	--	--	393	--	--	--	--	--	--	--
Birch	41,466	3,012	4,008	6,085	5,929	5,511	4,767	4,182	2,047	4,752	1,173
Sweetgum	11,698	712	860	3,530	971	316	2,477	765	1,259	808	--
Tupelo	63,182	8,222	7,359	7,676	11,046	9,603	6,022	5,319	2,694	4,698	543
Black cherry	50,006	9,613	10,577	8,967	6,111	4,388	4,619	2,754	1,087	1,890	--
Black walnut	296,508	23,767	48,249	56,601	51,372	44,414	32,200	22,162	9,003	8,169	571
Butternut	3,168	402	170	261	1,304	264	534	92	141	--	--
Yellow-poplar	4,455	78	490	206	1,163	448	98	149	682	193	948
Persimmon	15,061	8,805	3,704	1,218	474	550	--	310	--	--	--
Sassafras	18,696	8,459	4,400	1,742	1,805	836	232	731	--	491	--
Other hardwoods	274,975	41,819	38,308	46,597	42,684	29,370	25,577	19,121	12,603	16,518	2,378
Noncommercial sp.	62,782	20,198	14,643	10,271	5,059	3,704	2,463	2,260	1,191	2,589	404
Total	12,910,159	1,294,028	1,672,652	1,948,525	2,010,883	1,848,031	1,447,749	962,913	589,054	907,285	229,039
All species	13,845,405	1,453,336	1,870,772	2,140,282	2,176,585	1,966,824	1,503,734	987,172	599,530	916,392	230,778

[1] Net volume of all live trees 5 inches dbh and larger from a 1-foot stump to a 4-inch top diameter outside bark.

Table 45.--Net volume of tree species on timberland by major tree class and individual species, Missouri, 1989

Species	All live trees					Saw-log size trees		
	Total all live	Growing stock	Short-log	Rough	Rotten	Total saw-log size trees	Sawtimber	Short-log
	Thousand cubic feet					*Thousand board feet* [1]		
White pine	13,843	13,843	--	--	--	54,123	54,123	--
Shortleaf pine	637,577	618,365	3,768	13,379	2,065	2,197,963	2,182,900	15,063
Virginia pine	1,897	1,751	--	146	--	4,219	4,219	--
Baldcypress	14,600	12,717	254	655	974	62,248	61,836	412
Eastern redcedar	266,753	212,266	5,502	47,463	1,522	466,527	443,037	23,490
Scotch pine	576	462	--	114	--	--	--	--
White oak	2,923,605	2,062,823	234,201	533,961	92,620	6,900,661	6,212,359	688,302
Swamp white oak	61,313	32,176	7,776	18,795	2,566	118,734	98,149	20,585
Bur oak	88,482	46,712	10,933	27,442	3,395	206,448	176,211	30,237
Swamp chestnut	5,812	2,538	444	2,830	--	12,505	11,146	1,359
Chinkapin oak	217,449	65,840	20,524	115,467	15,618	225,656	165,657	59,999
Overcup oak	8,687	6,379	1,182	593	533	23,955	20,809	3,146
Chestnut oak	318	197	--	--	121	--	--	--
Post oak	1,571,811	872,110	100,202	487,542	111,957	2,100,672	1,774,288	326,384
Cherrybark oak	5,373	4,211	176	543	443	16,392	15,863	529
Northern red oak	575,806	364,603	37,630	111,696	61,877	1,449,115	1,342,910	106,205
Shumard oak	10,023	6,621	733	2,283	386	32,655	30,764	1,891
Scarlet oak	605,065	436,149	14,974	115,929	38,013	1,319,935	1,275,110	44,825
Northern pin oak	341	341	--	--	--	1,632	1,632	--
Southern pin oak	56,302	38,666	3,493	11,649	2,494	148,615	138,865	9,750
Shingle oak	134,016	76,726	7,970	44,294	5,026	266,092	242,024	24,068
Blackjack oak	279,416	81,629	8,130	155,223	34,434	163,063	137,433	25,630
Pin oak	118,001	83,798	5,949	25,656	2,598	311,064	295,862	15,202
Willow oak	2,698	1,631	625	69	373	9,534	7,949	1,585
Black oak	2,508,438	1,731,458	119,522	494,962	162,496	5,695,698	5,336,961	358,737
Pecan	24,822	13,880	3,362	7,447	133	61,761	55,084	6,677
Shellbark hickory	32,827	26,495	710	5,220	402	76,350	74,912	1,438
Shagbark hickory	314,651	242,505	12,506	55,189	4,451	515,681	482,770	32,911
Mockernut hickory	253,539	176,841	11,502	54,349	10,847	404,537	370,708	33,829
Water hickory	161	62	--	99	--	--	--	--
Bitternut hickory	105,802	74,195	4,900	25,142	1,565	156,701	141,337	15,364
Pignut hickory	251,257	187,060	8,315	46,364	9,518	461,871	435,860	26,011
Black hickory	245,094	161,616	7,809	62,363	13,306	293,629	269,292	24,337
American basswood	29,530	14,392	1,529	8,627	4,982	62,050	57,911	4,139
Beech	1,591	513	--	367	711	2,228	2,228	--
Black maple	1,282	301	--	981	--	--	--	--
Sugar maple	148,670	66,413	7,500	60,641	14,116	160,184	140,069	20,115
Red maple	22,984	9,673	1,442	9,595	2,274	24,268	20,609	3,659
Silver maple	208,708	113,976	23,615	58,551	12,566	449,265	390,364	58,901
Winged elm	13,638	7,474	--	5,830	334	2,912	2,912	--
American elm	202,867	85,006	9,987	103,305	4,569	160,031	127,977	32,054
Siberian elm	66	--	--	66	--	--	--	--
Slippery elm	57,961	29,217	2,944	22,187	3,613	46,659	37,492	9,167
Rock elm	6,645	2,984	165	3,496	--	6,867	6,333	534
Blue ash	5,294	1,641	377	2,176	1,100	6,100	5,039	1,061
White ash	189,363	94,140	13,969	68,815	12,439	271,582	228,206	43,376
Green ash	78,436	50,703	5,366	18,101	4,266	167,256	150,805	16,451
Sycamore	230,349	180,928	8,351	26,185	14,885	726,897	707,601	19,296
Eastern cottonwood	192,222	159,145	8,955	11,557	12,565	748,679	728,138	20,541
Black willow	117,479	79,522	8,244	24,160	5,553	336,857	317,166	19,691
Hackberrry	159,736	91,834	11,903	51,805	4,194	259,184	222,899	36,285
River birch	41,466	29,126	1,859	8,631	1,850	90,219	85,266	4,953
Sweetgum	11,698	10,067	179	1,336	116	26,747	26,234	513
Water tupelo	1,231	649	242	135	205	3,218	2,528	690
Black tupelo	61,951	35,473	3,441	12,204	10,833	101,918	92,349	9,569
Swamp tupelo	18,283	11,804	1,102	3,163	2,214	45,834	42,749	3,085
Black cherry	50,006	18,947	2,915	23,920	4,224	46,974	38,837	8,137
Black walnut	296,508	147,241	26,188	108,350	14,729	487,691	398,282	89,409
Butternut	3,168	1,264	169	1,175	560	3,987	3,494	493
Yellow-poplar	4,455	3,923	--	305	227	17,282	17,282	--
Boxelder	47,508	11,381	1,821	25,777	8,529	30,379	25,280	5,099
Ohio buckeye	5,201	1,638	418	2,740	405	6,089	4,874	1,215
Northern catalpa	107	--	--	107	--	--	--	--
Sugarberry	309	190	--	119	--	804	804	--
Persimmon	15,061	6,739	--	7,656	666	1,566	1,566	--
Kentucky coffeetree	8,053	5,504	549	1,621	379	12,817	11,356	1,461
Flowering dogwood	11,656	3,032	--	6,933	1,691	1,201	1,201	--
Honeylocust	118,558	34,926	8,391	67,834	7,407	114,395	90,822	23,573
White mulberry	3,072	--	--	2,983	89	--	--	--
Red mulberry	32,923	4,055	458	23,520	4,890	10,753	9,450	1,303
White poplar	393	393	--	--	--	--	--	--
Black locust	28,885	11,915	1,603	11,150	4,217	24,737	20,233	4,504
Sassafras	18,696	5,717	598	8,048	4,333	6,937	5,196	1,741
Ozark chinkapin	70	--	--	--	70	--	--	--
Waterlocust	189	55	--	134	--	--	--	--
Noncommercial species	62,782	--	--	62,673	109	--	--	--
All commercial species	13,845,405	8,988,567	787,372	3,323,823	745,643	28,222,603	25,883,622	2,338,981

[1] International 1/4 -inch rule.

Table 46.--Net volume of noncommercial tree species on timberland by individual species, Missouri, 1989

(In thousand cubic feet)

Species	Nongrowing-stock volume
American hornbeam	1,203
Hawthorn	327
Osage-orange	45,266
Apple	288
Eastern hophornbeam	2,620
Wild plum	161
Peachleaf willow	329
Eastern redbud	11,003
Pawpaw	73
Ailanthus	383
Gum bumelia	1,129
All species	62,782

Table 47.--Net volume of growing stock on timberland by species group and forest type, Missouri, 1989

(In thousand cubic feet)

Species group	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Softwoods													
White pine	13,843	--	--	--	--	--	--	--	--	--	--	13,843	--
Shortleaf pine	618,365	238,228	--	--	182,713	26,696	113,447	54,614	--	355	--	2,312	--
Other yellow pines	1,751	--	--	--	170	--	--	--	--	--	--	1,581	--
Baldcypress	12,717	--	--	--	117	--	--	--	8,767	3,833	--	--	--
Eastern redcedar	212,266	1,783	69,659	72,402	80	21,423	17,472	17,582	83	1,817	--	9,965	--
Other softwoods	462	--	--	--	--	--	--	--	--	--	--	462	--
Total	859,404	240,011	69,659	72,402	183,080	48,119	130,919	72,196	8,850	6,005	--	28,163	--
Hardwoods													
Select white oak	2,210,089	13,094	1,816	23,989	43,424	137,205	603,036	1,319,750	12,216	11,771	--	43,569	219
Other white oak	878,686	7,714	3,282	29,833	16,479	540,594	210,110	56,117	7,136	624	--	6,797	--
Select red oak	375,435	406	596	4,973	1,421	14,534	200,818	126,627	1,590	5,130	--	19,340	--
Other red oak	2,450,398	21,113	3,669	20,357	95,542	279,723	1,609,398	316,550	44,035	23,572	--	36,439	--
Select hickory	459,721	3,226	1,301	6,596	2,140	57,524	186,216	143,011	10,850	18,839	--	30,018	--
Other hickory	422,871	3,142	133	4,852	7,774	84,123	195,279	101,951	3,645	6,127	--	15,845	--
Basswood	14,392	--	--	--	--	--	2,532	2,625	--	3,150	--	6,085	--
Beech	513	--	--	--	--	--	409	--	--	--	--	104	--
Hard maple	66,714	179	--	1,153	--	789	7,942	29,969	--	89	--	26,593	--
Soft maple	123,649	--	--	--	152	--	2,264	2,564	2,423	82,004	5,570	28,672	--
Elm	124,681	438	1,133	2,088	905	5,741	27,189	24,106	2,394	21,104	806	38,777	--
Ash	146,484	--	548	4,105	--	8,888	23,681	38,178	5,854	30,537	366	34,327	--
Sycamore	180,928	--	751	2,122	721	3,420	19,882	26,053	779	94,780	1,461	30,959	--
Cottonwood	159,145	--	314	274	--	--	4,635	11,477	1,630	75,753	56,135	8,927	--
Willow	79,522	--	--	--	--	--	803	51	3,737	73,330	--	1,601	--
Hackberry	91,834	--	--	1,529	--	1,907	13,154	18,371	642	37,531	243	18,457	--
Aspen	393	--	--	--	--	--	--	--	393	--	--	--	--
Birch	29,126	--	--	377	--	346	3,360	577	2,042	16,289	--	6,135	--
Sweetgum	10,067	928	--	--	--	--	1,880	3,033	450	1,120	--	2,656	--
Tupelo	36,122	365	--	--	613	2,416	18,812	8,978	4,236	--	--	702	--
Black cherry	18,947	105	--	116	83	1,635	6,111	4,632	348	929	--	4,988	--
Black walnut	147,241	80	389	2,457	923	8,193	41,778	28,387	778	14,658	382	49,216	--
Butternut	1,264	--	--	--	--	142	363	147	92	422	--	98	--
Yellow-poplar	3,923	--	--	--	--	--	2,282	555	--	--	--	1,086	--
Persimmon	6,739	12	174	1,019	--	800	2,309	1,587	458	263	--	117	--
Sassafras	5,717	340	--	268	499	200	3,135	1,092	--	--	--	183	--
Other hardwoods	84,562	130	796	1,240	764	2,781	31,214	15,135	1,374	17,372	451	13,305	--
Total	8,129,163	51,272	14,902	107,348	171,440	1,150,961	3,218,592	2,281,523	107,102	535,394	65,414	424,996	219
All species	8,988,567	291,283	84,561	179,750	354,520	1,199,080	3,349,511	2,353,719	115,952	541,399	65,414	453,159	219

Table 48.--Net volume of sawtimber on timberland by species group and forest type, Missouri, 1989

(In thousand board feet) [1]

Species group	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Softwoods													
White pine	54,123	--	--	--	--	--	--	--	--	--	--	54,123	--
Shortleaf pine	2,182,900	777,708	--	--	634,667	106,025	445,131	209,096	--	1,940	--	8,333	--
Other yellow pines	4,219	--	--	--	--	--	--	--	--	--	--	4,219	--
Baldcypress	61,836	--	--	--	--	--	--	--	42,720	19,116	--	--	--
Eastern redcedar	443,037	6,256	173,826	122,891	--	30,878	46,456	42,715	--	4,986	--	15,029	--
Other softwoods	--	--	--	--	--	--	--	--	--	--		--	--
Total	2,746,115	783,964	173,826	122,891	634,667	136,903	491,587	251,811	42,720	26,042	--	81,704	--
Hardwoods													
Select white oak	6,663,522	27,185	5,300	84,764	101,322	401,751	1,620,388	4,166,034	41,148	41,906	--	172,662	1,062
Other white oak	1,795,097	7,277	4,734	68,877	26,627	1,016,666	473,188	147,118	25,360	2,468	--	22,782	--
Select red oak	1,389,537	--	--	19,617	3,200	42,357	736,946	487,686	7,390	20,176	--	72,165	--
Other red oak	7,435,836	51,024	11,834	49,265	241,190	737,137	4,908,995	1,073,549	148,438	95,423	--	118,981	--
Select hickory	983,474	--	2,766	11,923	3,256	91,009	364,643	311,006	34,622	73,614	--	90,635	--
Other hickory	846,489	4,383	--	8,097	16,105	132,994	394,328	234,599	6,661	19,472	--	29,850	--
Basswood	57,911	--	--	--	--	--	8,460	9,796	--	14,152	--	25,503	--
Beech	2,228	--	--	--	--	--	1,701	--	--	--	--	527	--
Hard maple	140,069	--	--	1,537	--	--	14,190	60,912	--	--	--	63,430	--
Soft maple	410,973	--	--	--	--	--	5,687	7,354	8,193	281,819	17,219	90,701	--
Elm	174,714	--	2,143	--	--	899	24,756	33,679	4,527	40,726	3,841	64,143	--
Ash	384,050	--	--	10,552	--	22,665	49,740	103,404	18,042	93,583	--	86,064	--
Sycamore	707,601	--	--	4,031	3,087	8,472	70,267	94,113	3,601	397,721	6,126	120,183	--
Cottonwood	728,138	--	1,505	1,338	--	--	19,308	54,195	6,159	355,928	251,089	38,616	--
Willow	317,166	--	--	--	--	--	2,336	--	9,682	299,583	--	5,565	--
Hackberry	222,899	--	--	2,535	--	4,282	26,349	41,100	2,562	104,978	--	41,093	--
Aspen	--	--	--		--	--	--	--	--	--	--	--	--
Birch	85,266	--	--	--	--	1,191	12,637	1,237	6,335	44,217	--	19,649	--
Sweetgum	26,234	--	--	--	--	--	8,045	4,185	--	4,996	--	9,008	--
Tupelo	94,877	--	--	--	2,189	4,793	41,349	28,725	15,262	--	--	2,559	--
Black cherry	38,837	--	--	--	--	2,517	8,380	9,700	943	2,886	--	14,411	--
Black walnut	398,282	--	890	4,676	802	20,842	110,923	80,962	--	46,000	1,302	131,885	--
Butternut	3,494	--	--	--	--	673	895	--	--	1,926	--	--	--
Yellow-poplar	17,282	--	--	--	--	--	10,031	2,382	--	--	--	4,869	--
Persimmon	1,566	--	--	--	--	--	--	--	1,566	--	--	--	--
Sassafras	5,196	--	--	--	--	--	3,870	1,326	--	--	--	--	--
Other hardwoods	206,769	--	909	4,814	--	6,341	67,017	44,013	3,037	42,136	1,197	37,305	--
Total	23,137,507	89,869	30,081	272,026	397,778	2,494,589	8,984,429	6,997,075	343,528	1,983,710	280,774	1,262,586	1,062
All species	25,883,622	873,833	203,907	394,917	1,032,445	2,631,492	9,476,016	7,248,886	386,248	2,009,752	280,774	1,344,290	1,062

[1] International 1/4-inch rule.

Table 49.--Net volume of growing stock on timberland by species group and ownership class, Missouri, 1989

(In thousand cubic feet)

Species group	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Softwoods									
White pine	13,843	--	--	13,843	--	--	--	--	--
Shortleaf pine	618,365	295,908	7,032	30,647	--	35,521	96,088	20,182	132,987
Other yellow pines	1,751	170	--	--	--	--	--	--	1,581
Baldcypress	12,717	--	328	8,027	--	--	1,975	--	2,387
Eastern redcedar	212,266	8,200	3,892	7,885	--	--	77,755	15,557	98,977
Other softwoods	462	--	--	--	--	--	--	--	462
Total	859,404	304,278	11,252	60,402	--	35,521	175,818	35,739	236,394
Hardwoods									
Select white oak	2,210,089	266,133	25,259	65,083	2,028	37,428	728,924	144,595	940,639
Other white oak	878,686	62,164	13,905	16,341	644	11,550	342,706	50,517	380,859
Select red oak	375,435	30,387	10,373	15,750	369	1,278	126,194	34,349	156,735
Other red oak	2,450,398	388,647	37,468	88,856	8,626	68,106	766,978	140,494	951,223
Select hickory	459,721	19,767	7,854	8,177	1,405	5,471	201,591	37,907	177,549
Other hickory	422,871	50,890	5,959	10,796	936	9,156	157,393	23,829	163,912
Basswood	14,392	50	--	934	--	--	10,191	452	2,765
Beech	513	--	--	--	62	--	347	--	104
Hard maple	66,714	664	1,368	1,143	--	--	32,907	5,904	24,728
Soft maple	123,649	152	9,059	5,018	--	600	57,379	16,268	35,173
Elm	124,681	3,351	2,868	3,367	545	--	61,074	10,818	42,658
Ash	146,484	2,310	3,512	5,423	1,617	556	65,556	19,231	48,279
Sycamore	180,928	5,307	12,036	8,468	555	340	91,553	15,411	47,258
Cottonwood	159,145	--	9,460	5,876	3,679	--	81,695	18,769	39,666
Willow	79,522	--	968	9,972	740	--	55,093	1,208	11,541
Hackberry	91,834	654	3,112	3,252	341	213	49,660	8,239	26,363
Aspen	393	--	--	393	--	--	--	--	--
Birch	29,126	--	5,137	477	--	267	13,600	3,444	6,201
Sweetgum	10,067	2,108	--	555	291	510	1,727	126	4,750
Tupelo	36,122	8,078	329	4,602	--	920	9,104	712	12,377
Black cherry	18,947	326	532	146	--	--	9,369	553	8,021
Black walnut	147,241	4,489	2,953	3,494	--	481	81,206	9,639	44,979
Butternut	1,264	--	42	--	--	--	520	--	702
Yellow-poplar	3,923	--	--	--	120	--	2,203	78	1,522
Persimmon	6,739	74	681	561	--	--	2,386	312	2,725
Sassafras	5,717	--	--	340	--	--	2,237	385	2,755
Other hardwoods	84,562	1,084	2,481	6,544	245	277	43,566	9,629	20,736
Total	8,129,163	846,635	155,356	265,568	22,203	137,153	2,995,159	552,869	3,154,220
All species	8,988,567	1,150,913	166,608	325,970	22,203	172,674	3,170,977	588,608	3,390,614

Table 50.--Net volume of sawtimber on timberland by species group and ownership class, Missouri, 1989

(In thousand board feet) [1]

Species group	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Softwoods									
White pine	54,123	--	--	54,123	--	--	--	--	--
Shortleaf pine	2,182,900	1,049,849	18,157	96,692	--	134,820	342,672	73,575	467,135
Other yellow pines	4,219	--	--	--	--	--	--	--	4,219
Baldcypress	61,836	--	1,566	38,562	--	--	9,666	--	12,042
Eastern redcedar	443,037	8,987	8,808	20,074	--	--	140,200	33,524	231,444
Other softwoods	--	--	--	--	--	--	--	--	--
Total	2,746,115	1,058,836	28,531	209,451	--	134,820	492,538	107,099	714,840
Hardwoods									
Select white oak	6,663,522	652,858	69,455	183,893	3,729	86,209	2,336,666	460,068	2,870,644
Other white oak	1,795,097	117,667	28,756	41,194	1,761	28,856	705,520	95,639	775,704
Select red oak	1,389,537	96,244	38,877	61,135	1,787	3,927	471,034	123,298	593,235
Other red oak	7,435,836	1,200,967	133,240	277,856	17,003	191,945	2,391,842	409,336	2,813,647
Select hickory	983,474	38,220	11,388	22,707	5,369	15,205	417,909	99,135	373,541
Other hickory	846,489	122,273	9,180	29,152	2,421	15,911	320,030	49,348	298,174
Basswood	57,911	252	--	4,685	--	--	39,140	2,184	11,650
Beech	2,228	--	--	--	--	--	1,701	--	527
Hard maple	140,069	1,923	4,824	2,900	--	--	76,286	12,256	41,880
Soft maple	410,973	--	35,931	16,711	--	2,000	198,647	47,809	109,875
Elm	174,714	7,006	2,598	5,360	1,637	--	82,408	11,236	64,469
Ash	384,050	3,233	6,324	17,411	--	2,080	174,063	56,146	124,793
Sycamore	707,601	19,511	48,186	38,377	1,733	1,618	364,170	56,238	177,768
Cottonwood	728,138	--	48,450	27,566	16,308	--	364,106	86,170	185,538
Willow	317,166	--	1,656	38,013	3,231	--	232,782	443	41,041
Hackberry	222,899	1,667	10,088	6,665	1,100	980	115,226	21,500	65,673
Aspen	--	--	--	--	--	--	--	--	--
Birch	85,266	--	18,679	1,589	--	1,167	42,926	3,455	17,450
Sweetgum	26,234	--	--	2,480	1,317	2,268	4,677	--	15,492
Tupelo	94,877	22,302	1,089	15,262	--	1,236	29,184	1,779	24,025
Black cherry	38,837	--	1,804	--	--	--	22,204	--	14,829
Black walnut	398,282	9,082	5,558	11,887	--	1,041	220,864	29,281	120,569
Butternut	3,494	--	195	--	--	--	1,926	--	1,373
Yellow-poplar	17,282	--	--	--	606	--	10,524	--	6,152
Persimmon	1,566	--	--	--	--	--	--	--	1,566
Sassafras	5,196	--	--	--	--	--	2,244	--	2,952
Other hardwoods	206,769	--	7,852	15,842	514	--	111,546	23,779	47,236
Total	23,137,507	2,293,205	484,130	820,685	58,516	354,443	8,737,625	1,589,100	8,799,803
All species	25,883,622	3,352,041	512,661	1,030,136	58,516	489,263	9,230,163	1,696,199	9,514,643

[1] International 1/4-inch rule.

Table 51.--Net volume of growing stock on timberland by forest type, stand-age class, and Forest Survey Unit, Missouri, 1989

(In thousand cubic feet)

Unit and forest type	All classes	Stand-age class (years) 1-20	21-40	41-60	61-80	81-100	101-120	121-140	141+
All Units									
Shortleaf pine	291,283	16,423	100,113	82,137	79,829	12,781	--	--	--
Eastern redcedar	84,561	17,279	8,993	28,420	8,543	17,927	872	2,527	--
E. redcedar-hardwood	179,750	22,781	22,072	52,572	40,735	29,843	11,747	--	--
Shortleaf pine-oak	354,520	19,511	41,967	185,517	80,315	15,976	11,234	--	--
Post-blackjack oak	1,199,080	100,612	206,228	374,806	273,119	133,991	86,095	24,229	--
Black-scarlet oak	3,349,511	268,211	547,504	1,090,918	890,648	453,154	81,217	9,201	8,658
White oak	2,353,719	127,200	186,595	612,851	558,614	513,945	271,082	65,497	17,935
Oak-gum-cypress	115,952	902	43,580	28,609	26,246	10,975	5,640	--	--
Elm-ash-soft maple	541,399	14,232	163,165	227,802	98,182	28,707	--	9,311	--
Cottonwood	65,414	0	16,431	3,858	45,125	--	--	--	--
Maple-beech	453,159	64,817	125,087	141,705	80,720	32,361	7,596	873	--
Nonstocked	219	219	--	--	--	--	--	--	--
All types	8,988,567	652,187	1,461,735	2,829,195	2,182,076	1,249,660	475,483	111,638	26,593
Eastern Ozarks Unit									
Shortleaf pine	159,285	3,298	42,260	40,038	60,908	12,781	--	--	--
Eastern redcedar	5,160	825	54	--	1,200	554	--	2,527	--
E. redcedar-hardwood	16,969	3,305	2,032	4,935	3,225	3,472	--	--	--
Shortleaf pine-oak	240,556	8,995	26,375	127,881	60,657	6,958	9,690	--	--
Post-blackjack oak	296,202	35,024	50,356	97,664	64,389	25,591	23,178	--	--
Black-scarlet oak	1,459,012	130,791	226,854	515,701	396,212	168,152	18,475	2,827	--
White oak	800,650	70,895	74,630	282,805	205,272	112,778	32,642	21,628	--
Oak-gum-cypress	7,249	--	5,218	2,031	--	--	--	--	--
Elm-ash-soft maple	49,926	950	13,476	32,258	3,242	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	53,047	13,940	12,978	15,978	9,248	903	--	--	--
Nonstocked	219	219	--	--	--	--	--	--	--
All types	3,088,275	268,242	454,233	1,119,291	804,353	331,189	83,985	26,982	--
Southwest Ozarks Unit									
Shortleaf pine	85,684	1,557	28,551	36,655	18,921	--	--	--	--
Eastern redcedar	13,432	3,256	2,874	2,928	3,020	1,354	--	--	--
E. redcedar-hardwood	49,890	12,078	7,824	11,841	7,671	7,210	3,266	--	--
Shortleaf pine-oak	102,810	10,516	14,591	54,004	17,216	4,939	1,544	--	--
Post-blackjack oak	291,605	22,713	55,535	96,861	64,039	24,998	19,702	7,757	--
Black-scarlet oak	600,453	59,888	126,836	181,253	152,046	65,047	15,383	--	--
White oak	230,986	12,150	30,068	75,194	50,606	40,713	22,255	--	--
Oak-gum-cypress	--	--	--	--	--	--	--	--	--
Elm-ash-soft maple	12,675	--	2,442	6,324	3,909	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	24,356	5,082	5,339	7,698	2,908	3,329	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	1,411,891	127,240	274,060	472,758	320,336	147,590	62,150	7,757	--

(Table 51 continued on next page)

(Table 51 continued)

Unit and forest type	All classes	Stand-age class (years) 1-20	21-40	41-60	61-80	81-100	101-120	121-140	141+
Northwest Ozarks Unit									
Shortleaf pine	42,133	11,568	25,121	5,444	--	--	--	--	--
Eastern redcedar	13,937	6,595	618	4,732	1,992	--	--	--	--
E. redcedar-hardwood	22,204	2,797	2,659	11,220	3,171	1,268	1,089	--	--
Shortleaf pine-oak	5,080	--	1,001	--	--	4,079	--	--	--
Post-blackjack oak	305,401	24,783	66,757	100,138	73,289	21,382	11,288	7,764	--
Black-scarlet oak	454,469	34,702	64,166	132,925	112,728	93,066	15,419	1,463	--
White oak	252,710	9,047	15,033	54,689	85,297	63,061	20,913	4,670	--
Oak-gum-cypress	236	153	--	--	--	83	--	--	--
Elm-ash-soft maple	30,540	687	1,805	17,187	9,262	1,599	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	25,917	4,705	8,041	8,357	4,814	--	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	1,152,627	95,037	185,201	334,692	290,553	184,538	48,709	13,897	--
Prairie Unit									
Shortleaf pine	--	--	--	--	--	--	--	--	--
Eastern redcedar	3,365	1,536	1,829	--	--	--	--	--	--
E. redcedar-hardwood	4,569	904	--	--	3,665	--	--	--	--
Shortleaf pine-oak	--	--	--	--	--	--	--	--	--
Post-blackjack oak	97,444	10,866	20,961	30,515	27,251	6,028	--	1,823	--
Black-scarlet oak	395,649	29,731	60,375	143,341	98,474	49,172	13,053	1,503	--
White oak	476,067	20,744	48,103	126,520	87,868	96,476	80,267	12,264	3,825
Oak-gum-cypress	72,529	--	22,432	14,818	20,297	9,342	5,640	--	--
Elm-ash-soft maple	278,074	10,825	62,720	121,557	57,787	25,185	--	--	--
Cottonwood	39,778	--	4,859	3,858	31,061	--	--	--	--
Maple-beech	225,552	30,035	58,173	86,168	41,529	7,471	1,303	873	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	1,593,027	104,641	279,452	526,777	367,932	193,674	100,263	16,463	3,825
Riverborder Unit									
Shortleaf pine	4,181	--	4,181	--	--	--	--	--	--
Eastern redcedar	48,667	5,067	3,618	20,760	2,331	16,019	872	--	--
E. redcedar-hardwood	86,118	3,697	9,557	24,576	23,003	17,893	7,392	--	--
Shortleaf pine-oak	6,074	--	--	3,632	2,442	--	--	--	--
Post-blackjack oak	208,428	7,226	12,619	49,628	44,151	55,992	31,927	6,885	--
Black-scarlet oak	439,928	13,099	69,273	117,698	131,188	77,717	18,887	3,408	8,658
White oak	593,306	14,364	18,761	73,643	129,571	200,917	115,005	26,935	14,110
Oak-gum-cypress	35,938	749	15,930	11,760	5,949	1,550	--	--	--
Elm-ash-soft maple	170,184	1,770	82,722	50,476	23,982	1,923	--	9,311	--
Cottonwood	25,636	--	11,572	--	14,064	--	--	--	--
Maple-beech	124,287	11,055	40,556	23,504	22,221	20,658	6,293	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	1,742,747	57,027	268,789	375,677	398,902	392,669	180,376	46,539	22,768

Table 52.--Net volume of sawtimber on timberland by forest type, stand-age class, and Forest Survey Unit, Missouri, 1989

(In thousand board feet) [1]

Unit and forest type	All classes	Stand-age class (years) 1-20	21-40	41-60	61-80	81-100	101-120	121-140	141+
All Units									
Shortleaf pine	873,833	14,141	203,202	262,419	344,546	49,525	--	--	--
Eastern redcedar	203,907	21,731	13,831	79,549	24,358	51,531	3,404	9,503	--
E. redcedar-hardwood	394,917	22,443	32,845	111,702	105,664	86,295	35,968	--	--
Shortleaf pine-oak	1,032,445	37,224	76,870	525,659	277,490	67,016	48,186	--	--
Post-blackjack oak	2,631,492	161,727	306,422	721,502	706,441	398,281	257,769	79,350	--
Black-scarlet oak	9,476,016	570,350	1,091,369	2,847,090	3,014,407	1,594,073	293,134	29,788	35,805
White oak	7,248,886	311,279	348,359	1,566,577	1,811,456	1,849,849	1,048,477	251,744	61,145
Oak-gum-cypress	386,248	4,368	109,795	110,479	101,515	38,755	21,336	--	--
Elm-ash-soft maple	2,009,752	35,250	569,521	863,965	387,780	112,851	--	40,385	--
Cottonwood	280,774	0	67,561	13,058	200,155	0	--	--	--
Maple-beech	1,344,290	159,997	316,676	423,840	292,511	116,183	32,386	2,697	--
Nonstocked	1,062	1,062	--	--	--	--	--	--	--
All types	25,883,622	1,339,572	3,136,451	7,525,840	7,266,323	4,364,359	1,740,660	413,467	96,950
Eastern Ozarks Unit									
Shortleaf pine	534,544	5,763	102,077	124,510	252,669	49,525	--	--	--
Eastern redcedar	16,301	0	0	0	5,462	1,336	--	9,503	--
E. redcedar-hardwood	38,867	4,221	4,492	10,287	5,671	14,196	--	--	--
Shortleaf pine-oak	731,678	22,755	56,847	377,713	200,479	31,693	42,191	--	--
Post-blackjack oak	718,388	61,915	96,556	221,157	203,655	65,566	69,539	--	--
Black-scarlet oak	4,069,946	270,385	492,788	1,315,954	1,342,218	582,174	56,951	9,476	--
White oak	2,280,949	159,281	141,344	731,274	636,927	407,097	121,184	83,842	--
Oak-gum-cypress	18,572	--	9,996	8,576	--	--	--	--	--
Elm-ash-soft maple	196,742	4,134	46,112	134,828	11,668	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	127,372	29,784	27,762	35,745	30,415	3,666	--	--	--
Nonstocked	1,062	1,062	--	--	--	--	--	--	--
All types	8,734,421	559,300	977,974	2,960,044	2,689,164	1,155,253	289,865	102,821	--
Southwest Ozarks Unit									
Shortleaf pine	286,005	4,320	64,817	124,991	91,877	--	--	--	--
Eastern redcedar	16,238	4,063	3,478	3,976	3,256	1,465	--	--	--
E. redcedar-hardwood	65,979	8,002	7,191	15,255	8,742	18,097	8,692	--	--
Shortleaf pine-oak	261,135	14,469	20,023	134,640	65,618	20,390	5,995	--	--
Post-blackjack oak	711,564	35,718	100,858	215,190	192,039	87,322	57,104	23,333	--
Black-scarlet oak	1,635,130	129,618	241,488	494,488	489,946	220,376	59,214	--	--
White oak	682,031	29,267	53,039	205,112	171,956	135,761	86,896	--	--
Oak-gum-cypress	--	--	--	--	--	--	--	--	--
Elm-ash-soft maple	42,835	--	7,691	22,286	12,858	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	59,683	14,162	14,740	12,340	9,840	8,601	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	3,760,600	239,619	513,325	1,228,278	1,046,132	492,012	217,901	23,333	--

(Table 52 continued on next page)

[1] International 1/4-inch rule.

(Table 52 continued)

Unit and forest type	All classes	Stand-age class (years) 1-20	21-40	41-60	61-80	81-100	101-120	121-140	141+
Northwest Ozarks Unit									
Shortleaf pine	45,527	4,058	28,551	12,918	--	--	--	--	--
Eastern redcedar	26,682	5,571	1,706	9,002	10,403	--	--	--	--
E. redcedar-hardwood	33,202	664	1,053	21,699	3,572	2,043	4,171	--	--
Shortleaf pine-oak	14,933	--	--	--	--	14,933	--	--	--
Post-blackjack oak	535,357	33,878	59,502	159,993	155,764	66,139	33,135	26,946	--
Black-scarlet oak	1,256,415	70,757	104,373	309,894	380,795	337,833	51,533	1,230	--
White oak	812,779	17,975	32,268	135,022	293,503	236,915	76,818	20,278	--
Oak-gum-cypress	761	761	--	--	--	--	--	--	--
Elm-ash-soft maple	113,719	843	6,344	63,093	37,456	5,983	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Maple-beech	66,874	10,210	15,852	24,199	16,613	--	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	2,906,249	144,717	249,649	735,820	898,106	663,846	165,657	48,454	--
Prairie Unit									
Shortleaf pine	--	--	--	--	--	--	--	--	--
Eastern redcedar	6,642	3,362	3,280	--	--	--	--	--	--
E. redcedar-hardwood	12,799	3,542	--	--	9,257	--	--	--	--
Shortleaf pine-oak	--	--	--	--	--	--	--	--	--
Post-blackjack oak	194,421	15,102	29,634	58,822	64,639	19,779	--	6,445	--
Black-scarlet oak	1,126,720	65,558	97,109	395,993	346,942	164,608	50,526	5,984	--
White oak	1,497,731	55,819	87,481	323,390	288,125	356,198	323,431	48,402	14,885
Oak-gum-cypress	229,076	--	43,259	57,209	74,386	32,886	21,336	--	--
Elm-ash-soft maple	978,546	23,997	179,161	445,818	231,300	98,270	--	--	--
Cottonwood	165,960	--	17,475	13,058	135,427	--	--	--	--
Maple-beech	656,911	67,884	125,325	269,711	157,542	27,708	6,044	2,697	--
Nonstocked	--	--	--	--	--	--	--	--	--
All types	4,868,806	235,264	582,724	1,564,001	1,307,618	699,449	401,337	63,528	14,885
Riverborder Unit									
Shortleaf pine	7,757	--	7,757	--	--	--	--	--	--
Eastern redcedar	138,044	8,735	5,367	66,571	5,237	48,730	3,404	--	--
E. redcedar-hardwood	244,070	6,014	20,109	64,461	78,422	51,959	23,105	--	--
Shortleaf pine-oak	24,699	--	--	13,306	11,393	--	--	--	--
Post-blackjack oak	471,762	15,114	19,872	66,340	90,344	159,475	97,991	22,626	--
Black-scarlet oak	1,387,805	34,032	155,611	330,761	454,506	289,082	74,910	13,098	35,805
White oak	1,975,396	48,937	34,227	171,779	420,945	713,878	440,148	99,222	46,260
Oak-gum-cypress	137,839	3,607	56,540	44,694	27,129	5,869	--	--	--
Elm-ash-soft maple	677,910	6,276	330,213	197,940	94,498	8,598	--	40,385	--
Cottonwood	114,814	--	50,086	--	64,728	--	--	--	--
Maple-beech	433,450	37,957	132,997	81,845	78,101	76,208	26,342	--	--
Nonstocked	--		--	--	--	--	--	--	--
All types	5,613,546	160,672	812,779	1,037,697	1,325,303	1,353,799	665,900	175,331	82,065

Table 53.--Net volume of growing stock on timberland by forest type, basal-area class, and stand-size class, Missouri, 1989

(In thousand cubic feet)

Unit and forest type	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Shortleaf pine															
Sawtimber	190,988	--	--	--	2,912	6,057	6,319	4,410	25,266	12,480	8,028	51,919	53,731	11,280	8,586
Poletimber	95,440	--	--	--	--	--	--	1,716	11,987	7,939	4,964	23,013	24,331	9,922	11,568
Seedling and sapling	4,855	--	--	--	--	--	1,229	1,557	2,069	--	--	--	--	--	--
Total	291,283	--	--	--	2,912	6,057	7,548	7,683	39,322	20,419	12,992	74,932	78,062	21,202	20,154
Eastern redcedar															
Sawtimber	44,074	--	--	688	1,200	554	872	2,708	2,197	9,675	10,497	10,724	4,959	--	--
Poletimber	20,140	--	--	--	--	--	4,825	1,272	--	4,522	3,487	6,034	--	--	--
Seedling and sapling	20,347	151	573	1,389	503	6,514	1,875	4,819	3,914	--	609	--	--	--	--
Total	84,561	151	573	2,077	1,703	7,068	7,572	8,799	6,111	14,197	14,593	16,758	4,959	--	--
E. redcedar-hardwood															
Sawtimber	86,836	--	--	--	641	916	5,222	15,864	15,769	20,599	9,515	18,243	67	--	--
Poletimber	70,291	--	--	--	--	1,270	2,731	4,292	17,124	17,713	5,725	21,436	--	--	--
Seedling and sapling	22,623	--	23	2,463	1,648	4,449	5,307	2,606	3,194	--	1,873	1,060	--	--	--
Total	179,750	--	23	2,463	2,289	6,635	13,260	22,762	36,087	38,312	17,113	40,739	67	--	--
Shortleaf pine-oak															
Sawtimber	216,214	--	--	--	--	7,054	9,244	7,516	15,309	51,994	51,328	70,071	3,698	--	--
Poletimber	116,573	--	--	--	--	--	4,720	3,396	12,441	16,839	26,526	41,193	11,458	--	--
Seedling and sapling	21,733	--	--	2,619	706	1,673	5,345	1,384	--	3,604	2,061	4,341	--	--	--
Total	354,520	--	--	2,619	706	8,727	19,309	12,296	27,750	72,437	79,915	115,605	15,156	--	--
Post-blackjack oak															
Sawtimber	538,908	--	--	6,272	--	24,290	58,776	44,680	85,923	115,066	77,431	109,336	17,134	--	--
Poletimber	545,836	--	--	--	1,984	5,421	40,027	46,247	98,162	138,852	66,031	116,031	33,081	--	--
Seedling and sapling	114,336	--	3,087	8,412	11,101	22,452	29,275	8,542	17,655	5,527	7,990	295	--	--	--
Total	1,199,080	--	3,087	14,684	13,085	52,163	128,078	99,469	201,740	259,445	151,452	225,662	50,215	--	--
Black-scarlet oak															
Sawtimber	2,113,545	--	631	957	6,160	42,681	129,329	211,831	338,136	514,738	277,895	479,799	85,819	25,569	--
Poletimber	921,952	--	--	1,668	8,266	29,718	71,495	93,741	190,174	194,698	154,787	147,572	29,833	--	--
Seedling and sapling	314,014	1,309	3,406	14,276	21,504	58,654	87,338	58,283	39,354	27,056	2,834	--	--	--	--
Total	3,349,511	1,309	4,037	16,901	35,930	131,053	288,162	363,855	567,664	736,492	435,516	627,371	115,652	25,569	--
White oak															
Sawtimber	1,675,611	--	700	--	1,888	35,682	104,196	149,492	309,413	389,840	191,627	395,426	92,849	4,498	--
Poletimber	527,483	--	--	--	--	18,359	38,579	53,206	115,468	93,405	113,351	76,365	18,750	--	--
Seedling and sapling	150,625	401	2,275	12,562	14,070	24,658	41,698	27,120	23,203	1,828	--	2,810	--	--	--
Total	2,353,719	401	2,975	12,562	15,958	78,699	184,473	229,818	448,084	485,073	304,978	474,601	111,599	4,498	--

(Table 53 continued on next page)

(Table 53 continued)

Unit and forest type	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31- 40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Oak-gum-cypress															
Sawtimber	95,064	--	--	--	1,360	7,338	8,809	2,786	5,436	6,134	10,149	36,899	16,153	--	--
Poletimber	19,986	--	--	--	--	294	2,861	--	144	--	1,416	10,985	4,286	--	--
Seedling and sapling	902	--	153	--	--	--	--	749	--	--	--	--	--	--	--
Total	115,952	--	153	--	1,360	7,632	11,670	3,535	5,580	6,134	11,565	47,884	20,439	--	--
Elm-ash-soft maple															
Sawtimber	478,177	--	1,804	4,437	3,183	13,855	19,245	26,187	51,075	62,545	40,008	127,689	98,138	30,011	--
Poletimber	49,371	--	244	--	1,788	1,045	1,404	5,146	12,030	7,627	4,293	3,174	12,620	--	--
Seedling and sapling	13,851	--	414	944	1,862	3,263	4,607	932	464	--	1,365	--	--	--	--
Total	541,399	--	2,462	5,381	6,833	18,163	25,256	32,265	63,569	70,172	45,666	130,863	110,758	30,011	--
Cottonwood															
Sawtimber	65,414	--	--	940	--	1,837	--	1,599	--	1,348	--	6,178	19,115	20,333	14,064
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Seedling and sapling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	65,414	--	--	940	--	1,837	--	1,599	--	1,348	--	6,178	19,115	20,333	14,064
Maple-beech															
Sawtimber	272,640	--	--	2,112	119	15,643	25,026	19,129	57,104	53,064	26,459	68,529	3,272	2,183	--
Poletimber	114,490	--	--	171	--	8,652	13,852	13,562	17,388	16,931	11,079	17,734	15,121	--	--
Seedling and sapling	66,029	--	4,990	4,949	8,251	12,658	16,880	6,495	6,049	4,176	951	630	--	--	--
Total	453,159	--	4,990	7,232	8,370	36,953	55,758	39,186	80,541	74,171	38,489	86,893	18,393	2,183	--
Nonstocked	219	--	--	219	--	--	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	5,777,471	--	3,135	15,406	17,463	155,907	367,038	486,202	905,628	1,237,483	702,937	1,374,813	394,935	93,874	22,650
Poletimber	2,481,562	--	244	1,839	12,038	64,759	180,494	222,578	474,918	498,526	391,659	463,537	149,480	9,922	11,568
Seedling and sapling	729,315	1,861	14,921	47,614	59,645	134,321	193,554	112,487	95,902	42,191	17,683	9,136	--	--	--
Nonstocked	219	--	--	219	--	--	--	--	--	--	--	--	--	--	--
All stands	8,988,567	1,861	18,300	65,078	89,146	354,987	741,086	821,267	1,476,448	1,778,200	1,112,279	1,847,486	544,415	103,796	34,218

Table 54.--Net volume of sawtimber on timberland by forest type, basal-area class, and stand-size class, Missouri, 1989

(In thousand board feet) [1]

Unit and forest type	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31- 40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Shortleaf pine															
Sawtimber	729,373	--	--	--	10,269	24,250	20,695	13,559	88,477	42,503	24,490	214,130	213,712	42,163	35,125
Poletimber	134,377	--	--	--	--	--	--	1,011	16,455	14,949	1,411	39,413	43,908	13,172	4,058
Seedling and sapling	10,083	--	--	--	--	--	2,831	4,320	2,932	--	--	--	--	--	--
Total	873,833	--	--	--	10,269	24,250	23,526	18,890	107,864	57,452	25,901	253,543	257,620	55,335	39,183
Eastern redcedar															
Sawtimber	147,591	--	--	--	5,462	1,336	3,404	7,562	8,872	35,756	39,187	29,750	16,262	--	--
Poletimber	31,107	--	--	--	--	--	8,825	2,009	--	4,154	5,734	10,385	--	--	--
Seedling and sapling	25,209	--	--	2,247	--	14,492	989	5,111	1,269	--	1,101	--	--	--	--
Total	203,907	--	--	2,247	5,462	15,828	13,218	14,682	10,141	39,910	46,022	40,135	16,262	--	--
E. redcedar-hardwood															
Sawtimber	275,426	--	--	--	2,043	802	19,749	52,752	46,017	67,333	27,091	59,639	--	--	--
Poletimber	101,398	--	--	--	--	2,445	5,623	5,595	20,946	28,361	8,469	29,959	--	--	--
Seedling and sapling	18,093	--	--	1,904	--	7,139	2,661	3,091	1,586	--	1,712	--	--	--	--
Total	394,917	--	--	1,904	2,043	10,386	28,033	61,438	68,549	95,694	37,272	89,598	--	--	--
Shortleaf pine-oak															
Sawtimber	757,350	--	--	--	--	28,487	41,056	26,822	45,462	172,515	193,184	236,179	13,645	--	--
Poletimber	234,483	--	--	--	--	--	10,239	5,779	29,178	31,619	41,457	85,895	30,316	--	--
Seedling and sapling	40,612	--	--	--	3,097	7,562	12,813	2,345	--	4,977	1,030	8,788	--	--	--
Total	1,032,445	--	--	--	3,097	36,049	64,108	34,946	74,640	209,111	235,671	330,862	43,961	--	--
Post-blackjack oak															
Sawtimber	1,690,469	--	--	27,576	--	76,571	188,243	136,536	259,575	331,635	264,851	352,265	53,217	--	--
Poletimber	750,285	--	--	--	1,095	5,708	49,869	45,943	153,847	195,863	83,368	172,924	41,668	--	--
Seedling and sapling	190,738	--	5,656	19,017	22,635	35,751	44,445	10,872	27,487	10,616	13,998	261	--	--	--
Total	2,631,492	--	5,656	46,593	23,730	118,030	282,557	193,351	440,909	538,114	362,217	525,450	94,885	--	--
Black-scarlet oak															
Sawtimber	7,214,028	--	2,208	3,575	17,864	143,913	451,177	752,778	1,151,355	1,734,973	923,949	1,653,769	295,213	83,254	--
Poletimber	1,570,997	--	--	2,302	17,552	63,579	106,888	169,338	317,839	336,136	246,884	261,881	48,598	--	--
Seedling and sapling	690,991	1,551	8,730	22,269	55,202	117,788	214,726	125,710	74,574	68,678	1,763	--	--	--	--
Total	9,476,016	1,551	10,938	28,146	90,618	325,280	772,791	1,047,826	1,543,768	2,139,787	1,172,596	1,915,650	343,811	83,254	--
White oak															
Sawtimber	5,961,231	--	2,440	--	7,207	136,179	349,950	530,288	1,089,014	1,359,330	677,814	1,432,122	361,365	15,522	--
Poletimber	920,831	--	--	--	--	23,527	77,217	75,631	198,542	167,684	192,471	148,402	37,357	--	--
Seedling and sapling	366,824	--	7,977	37,541	35,146	53,470	106,616	49,814	64,382	7,256	--	4,622	--	--	--
Total	7,248,886	--	10,417	37,541	42,353	213,176	533,783	655,733	1,351,938	1,534,270	870,285	1,585,146	398,722	15,522	--

(Table 54 continued on next page)

[1] International 1/4-inch rule

(Table 54 continued)

Unit and forest type	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31- 40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Oak-gum-cypress															
Sawtimber	345,547	--	--	--	6,520	30,869	31,163	7,891	23,215	20,406	33,860	127,639	63,984	--	--
Poletimber	36,333	--	--	--	--	--	5,087	--	--	--	3,769	20,316	7,161	--	--
Seedling and sapling	4,368	--	761	--	--	--	--	3,607	--	--	--	--	--	--	--
Total	386,248	--	761	--	6,520	30,869	36,250	11,498	23,215	20,406	37,629	147,955	71,145	--	--
Elm-ash-soft maple															
Sawtimber	1,862,319	--	6,751	18,409	9,417	56,696	74,835	96,268	199,425	243,957	147,822	506,155	377,210	125,374	--
Poletimber	101,588	--	--	--	4,046	2,847	5,447	12,271	21,580	14,643	8,770	7,232	24,752	--	--
Seedling and sapling	45,845	--	1,875	4,030	6,133	9,880	20,345	2,345	1,237	--	--	--	--	--	--
Total	2,009,752	--	8,626	22,439	19,596	69,423	100,627	110,884	222,242	258,600	156,592	513,387	401,962	125,374	--
Cottonwood															
Sawtimber	280,774	--	--	3,981	--	6,984	--	2,909	--	5,784	--	23,643	77,501	95,244	64,728
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Seedling and sapling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	280,774	--	--	3,981	--	6,984	--	2,909	--	5,784	--	23,643	77,501	95,244	64,728
Maple-beech															
Sawtimber	971,449	--	--	9,112	537	52,661	88,493	68,848	202,235	186,504	99,306	246,688	12,186	4,879	--
Poletimber	209,574	--	--	568	--	16,147	19,854	22,868	35,775	25,824	11,722	39,823	36,993	--	--
Seedling and sapling	163,267	--	11,907	14,910	18,993	36,305	45,012	12,780	9,201	11,801	1,117	1,241	--	--	--
Total	1,344,290	--	11,907	24,590	19,530	105,113	153,359	104,496	247,211	224,129	112,145	287,752	49,179	4,879	--
Nonstocked	1,062	--	--	1,062	--	--	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	20,235,557	--	11,399	62,653	59,319	558,748	1,268,765	1,696,213	3,113,647	4,200,696	2,431,554	4,881,979	1,484,295	366,436	99,853
Poletimber	4,090,973	--	--	2,870	22,693	114,253	289,049	340,445	794,162	819,233	604,055	816,230	270,753	13,172	4,058
Seedling and sapling	1,556,030	1,551	36,906	101,918	141,206	282,387	450,438	219,995	182,668	103,328	20,721	14,912	--	--	--
Nonstocked	1,062	--	--	1,062	--	--	--	--	--	--	--	--	--	--	--
All stands	25,883,622	1,551	48,305	168,503	223,218	955,388	2,008,252	2,256,653	4,090,477	5,123,257	3,056,330	5,713,121	1,755,048	379,608	103,911

Table 55.--Net volume of sawtimber on timberland by species group, log grade, and diameter class, Missouri, 1989

(In thousand board feet) [1]

Species group	All grades					Log grade 1				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-22.9	23.0+	Total	9.0-14.9	15.0-18.9	19.0-22.9	23.0+
Softwoods										
White pine	54,123	50,024	4,099	--	--	1,007	933	74	--	--
Shortleaf pine	2,182,900	1,794,804	337,639	49,275	1,182	17,643	7,187	6,400	4,043	13
Other yellow pines	4,219	4,219	--	--	--	--	--	--	--	--
Baldcypress	61,836	2,347	14,269	19,423	25,797	--	--	--	--	--
Eastern redcedar	443,037	406,909	32,933	2,186	1,009	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--
Total	2,746,115	2,258,303	388,940	70,884	27,988	18,650	8,120	6,474	4,043	13
Hardwoods										
Select white oak	6,663,522	3,534,992	2,266,664	623,367	238,499	47,519	14,462	13,756	14,065	5,236
Other white oak	1,795,097	1,262,031	448,106	72,511	12,449	1,565	--	915	349	301
Select red oak	1,389,537	580,485	438,026	208,606	162,420	15,367	--	3,361	7,158	4,848
Other red oak	7,435,836	4,133,322	2,289,411	709,631	303,472	10,848	--	2,230	4,849	3,769
Select hickory	983,474	586,248	286,530	73,793	36,903	3,526	--	1,164	2,101	261
Other hickory	846,489	588,111	218,542	33,272	6,564	1,885	--	379	1,007	499
Basswood	57,911	23,509	19,777	13,659	966	--	--	--	--	--
Beech	2,228	527	997	704	--	--	--	--	--	--
Hard maple	140,069	100,224	27,198	8,937	3,710	--	--	--	--	--
Soft maple	410,973	121,816	122,976	89,873	76,308	7,160	--	3,716	650	2,794
Elm	174,714	113,908	46,689	4,626	9,491	--	--	--	--	--
Ash	384,050	219,062	105,924	35,880	23,184	5,657	--	3,326	660	1,671
Sycamore	707,601	167,965	209,340	160,917	169,379	115,513	20,171	27,824	26,426	41,092
Cottonwood	728,138	87,759	101,328	131,321	407,730	11,183	--	1,445	756	8,982
Willow	317,166	89,964	121,128	77,423	28,651	2,570	--	1,852	593	125
Hackberry	222,899	113,339	71,925	31,035	6,600	--	--	--	--	--
Aspen	--	--	--	--	--	--	--	--	--	--
Birch	85,266	45,820	26,891	8,393	4,162	1,240	--	684	453	103
Sweetgum	26,234	4,081	13,427	8,278	448	2,876	--	2,021	770	85
Tupelo	94,877	53,321	29,688	6,671	5,197	2,213	--	1,511	29	673
Black cherry	38,837	14,887	17,846	2,913	3,191	2,875	--	2,549	--	326
Black walnut	398,282	245,086	120,465	30,935	1,796	8,946	--	7,137	1,809	--
Butternut	3,494	1,568	1,926	--	--	--	--	--	--	--
Yellow-poplar	17,282	7,187	1,286	3,508	5,301	--	--	--	--	--
Persimmon	1,566	1,566	--	--	--	--	--	--	--	--
Sassafras	5,196	5,196	--	--	--	--	--	--	--	--
Other hardwoods	206,769	101,199	68,397	24,732	12,441	--	--	--	--	--
Total	23,137,507	12,203,173	7,054,487	2,360,985	1,518,862	240,943	34,633	73,870	61,675	70,765
All species	25,883,622	14,461,476	7,443,427	2,431,869	1,546,850	259,592	42,752	80,344	65,718	70,778

(Table 55 continued on next page)

[1] International 1/4-inch rule.

(Table 55 continued)

Species group	Log grade 2					Log grade 3				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-22.9	23.0+	Total	9.0-14.9	15.0-18.9	19.0-22.9	23.0+
Softwoods										
White pine	431	399	32	--	--	46,568	43,027	3,541	--	--
Shortleaf pine	170,743	100,487	55,234	14,842	180	1,994,514	1,687,130	276,005	30,390	989
Other yellow pines	--	--	--	--	--	4,219	4,219	--	--	--
Baldcypress	1,960	--	87	1,209	664	59,876	2,347	14,182	18,214	25,133
Eastern redcedar	1,061	1,002	45	9	5	441,976	405,907	32,888	2,177	1,004
Other softwoods	--	--	--	--	--	--	--	--	--	--
Total	174,196	101,889	55,398	16,060	849	2,547,153	2,142,630	326,616	50,781	27,126
Hardwoods										
Select white oak	693,101	257,232	249,142	137,295	49,432	2,936,733	1,641,269	1,042,149	170,558	82,757
Other white oak	95,228	54,854	30,682	8,495	1,197	503,906	359,032	127,977	14,173	2,724
Select red oak	144,845	40,236	41,199	40,212	23,198	273,574	127,658	94,358	26,252	25,306
Other red oak	339,225	120,338	129,915	57,355	31,617	1,187,260	665,021	412,713	65,691	43,835
Select hickory	126,569	58,657	45,634	16,852	5,426	204,659	133,965	55,425	8,954	6,315
Other hickory	89,355	43,678	35,983	7,268	2,426	219,497	177,834	37,838	2,917	908
Basswood	27,211	10,670	9,221	6,947	373	11,657	6,904	4,076	608	69
Beech	--	--	--	--	--	265	83	182	--	--
Hard maple	648	293	315	25	15	18,950	15,462	2,921	373	194
Soft maple	70,469	20,005	19,873	20,301	10,290	91,700	43,287	32,699	6,483	9,231
Elm	16,939	9,081	5,678	1,399	781	41,101	29,411	10,654	206	830
Ash	108,193	54,025	32,003	13,653	8,512	152,623	107,905	38,752	3,147	2,819
Sycamore	144,222	27,833	38,151	35,909	42,329	239,934	77,592	96,231	26,759	39,352
Cottonwood	62,263	8,010	12,889	13,544	27,820	144,523	32,323	26,214	13,209	72,777
Willow	16,804	4,914	8,737	2,875	278	91,128	36,695	40,516	9,855	4,062
Hackberry	24,242	11,513	8,627	3,500	602	57,124	37,728	16,725	1,978	693
Aspen	--	--	--	--	--	--	--	--	--	--
Birch	9,521	4,405	3,382	1,491	243	18,192	12,092	5,518	322	260
Sweetgum	--	--	--	--	--	7,004	2,443	3,986	514	61
Tupelo	5,366	2,870	998	1,182	316	28,011	17,660	8,571	1,205	575
Black cherry	5,772	1,717	3,652	--	403	5,123	3,034	1,954	--	135
Black walnut	59,835	32,164	20,274	6,195	1,202	138,921	100,498	36,106	2,256	61
Butternut	--	--	--	--	--	2,331	1,272	1,059	--	--
Yellow-poplar	--	--	--	--	--	10,130	6,323	869	892	2,046
Persimmon	--	--	--	--	--	1,378	1,378	--	--	--
Sassafras	--	--	--	--	--	1,137	1,137	--	--	--
Other hardwoods	19,481	5,905	5,791	4,575	3,210	25,078	13,262	9,819	1,117	880
Total	2,059,290	768,401	702,146	379,073	209,670	6,411,938	3,651,267	2,107,312	357,469	295,890
All species	2,233,485	870,289	757,544	395,133	210,519	8,959,091	5,793,897	2,433,928	408,250	323,016

(Table 55 continued on next page)

(Table 55 continued)

Species group	Log grade 4				
	Total	Diameter class (inches at breast height)			
		9.0-14.9	15.0-18.9	19.0-22.9	23.0+
Softwoods					
White pine	6,117	5,665	452	--	--
Shortleaf pine	--	--	--	--	--
Other yellow pines	--	--	--	--	--
Baldcypress	--	--	--	--	--
Eastern redcedar	--	--	--	--	--
Other softwoods	--	--	--	--	--
Total	6,117	5,665	452	--	--
Hardwoods					
Select white oak	2,986,169	1,622,029	961,617	301,449	101,074
Other white oak	1,194,398	848,145	288,532	49,494	8,227
Select red oak	955,752	412,592	299,108	134,984	109,068
Other red oak	5,898,503	3,347,963	1,744,553	581,736	224,251
Select hickory	648,720	393,626	184,307	45,886	24,901
Other hickory	535,752	366,599	144,342	22,080	2,731
Basswood	19,043	5,935	6,480	6,104	524
Beech	1,963	444	815	704	0
Hard maple	120,471	84,469	23,962	8,539	3,501
Soft maple	241,644	58,524	66,688	62,439	53,993
Elm	116,674	75,416	30,357	3,021	7,880
Ash	117,577	57,132	31,843	18,420	10,182
Sycamore	207,931	42,368	47,134	71,823	46,606
Cottonwood	510,169	47,426	60,780	103,812	298,151
Willow	206,664	48,355	70,023	64,100	24,186
Hackberry	141,533	64,098	46,573	25,557	5,305
Aspen	--	--	--	--	--
Birch	56,313	29,323	17,307	6,127	3,556
Sweetgum	16,354	1,638	7,420	6,994	302
Tupelo	59,287	32,791	18,608	4,255	3,633
Black cherry	25,067	10,136	9,691	2,913	2,327
Black walnut	190,580	112,424	56,948	20,675	533
Butternut	1,163	296	867	--	--
Yellow-poplar	7,152	864	417	2,616	3,255
Persimmon	188	188	--	--	--
Sassafras	4,059	4,059	--	--	--
Other hardwoods	162,210	82,032	52,787	19,040	8,351
Total	14,425,337	7,748,872	4,171,159	1,562,768	942,537
All species	14,431,454	7,754,537	4,171,611	1,562,768	942,537

Table 56.--Net volume of short-log trees on timberland by species group and diameter class, Missouri, 1989

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	--	--	--	--	--	--	--	--	--
Shortleaf pine	3,768	318	1,132	2,124	194	--	--	--	--
Other yellow pines	--	--	--	--	--	--	--	--	--
Baldcypress	254	--	--	--	--	--	--	254	--
Eastern redcedar	5,502	1,604	2,191	922	785	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--
Total	9,524	1,922	3,323	3,046	979	--	--	254	--
Hardwoods									
Select white oak	273,878	--	46,268	58,841	58,059	41,641	30,088	32,599	6,382
Other white oak	101,384	--	26,093	30,565	22,972	10,524	6,111	4,897	222
Select red oak	38,539	--	6,707	4,611	7,930	6,594	2,141	7,835	2,721
Other red oak	160,663	--	30,623	37,460	31,203	19,984	14,244	24,018	3,131
Select hickory	28,080	--	7,060	7,298	4,583	2,643	1,193	4,494	809
Other hickory	21,024	--	7,514	7,528	3,471	1,002	1,276	233	--
Basswood	1,529	--	--	158	479	299	244	159	190
Beech	--	--	--	--	--	--	--	--	--
Hard maple	7,500	--	1,397	2,834	374	1,384	1,154	357	--
Soft maple	25,057	--	1,509	2,743	2,431	4,905	1,845	6,320	5,304
Elm	13,096	--	5,018	4,047	373	1,916	241	1,445	56
Ash	19,712	--	5,334	5,923	3,661	1,969	1,185	1,567	73
Sycamore	8,351	--	1,060	839	1,596	777	242	2,887	950
Cottonwood	8,955	--	--	1,086	817	271	872	2,311	3,598
Willow	8,244	--	1,043	1,600	2,226	1,717	1,344	314	--
Hackberry	11,903	--	3,651	2,084	1,495	1,223	1,137	1,168	1,145
Aspen	--	--	--	--	--	--	--	--	--
Birch	1,859	--	--	74	616	327	428	414	--
Sweetgum	179	--	89	90	--	--	--	--	--
Tupelo	3,683	--	1,671	960	376	392	--	284	--
Black cherry	2,915	--	947	468	1,056	182	--	262	--
Black walnut	26,188	--	7,934	6,268	6,137	3,313	892	1,644	--
Butternut	169	--	169	--	--	--	--	--	--
Yellow-poplar	--	--	--	--	--	--	--	--	--
Persimmon	--	--	--	--	--	--	--	--	--
Sassafras	598	--	260	338	--	--	--	--	--
Other hardwoods	14,342	--	4,705	2,892	2,175	2,250	2,036	284	--
Total	777,848	--	159,052	178,707	152,030	103,313	66,673	93,492	24,581
All species	787,372	1,922	162,375	181,753	153,009	103,313	66,673	93,746	24,581

Table 57.--Net volume of short-log trees on timberland by species group and diameter class, Missouri, 1989

(In thousand board feet) [1]

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	--	--	--	--	--	--	--	--	--
Shortleaf pine	15,063	1,424	4,720	8,251	668	--	--	--	--
Other yellow pines	--	--	--	--	--	--	--	--	--
Baldcypress	412	--	--	--	--	--	--	412	--
Eastern redcedar	23,490	7,709	9,587	3,534	2,660	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--
Total	38,965	9,133	14,307	11,785	3,328	--	--	412	--
Hardwoods									
Select white oak	800,482	--	145,927	180,484	172,464	120,191	83,965	83,904	13,547
Other white oak	329,530	--	93,888	104,025	73,241	30,952	16,464	10,726	234
Select red oak	108,625	--	20,420	13,890	23,496	19,123	5,955	20,123	5,618
Other red oak	479,797	--	102,147	121,167	96,651	59,120	39,719	58,166	2,827
Select hickory	74,855	--	22,413	21,608	12,683	6,641	2,714	8,199	597
Other hickory	65,712	--	24,665	23,702	10,419	2,876	3,498	552	--
Basswood	4,139	--	--	449	1,343	826	667	428	426
Beech	--	--	--	--	--	--	--	--	--
Hard maple	20,115	--	3,941	7,931	1,000	3,579	2,823	841	--
Soft maple	62,560	--	3,869	7,087	6,308	12,734	4,771	16,100	11,691
Elm	41,755	--	16,472	13,193	1,198	5,912	718	4,122	140
Ash	60,888	--	17,053	18,795	11,402	5,969	3,494	4,027	148
Sycamore	19,296	--	2,246	1,820	3,448	1,813	561	7,010	2,398
Cottonwood	20,541	--		2,491	1,955	650	2,160	5,870	7,415
Willow	19,691	--	2,280	3,728	5,321	4,211	3,351	800	--
Hackberry	36,285	--	12,024	6,791	4,813	3,726	3,445	3,232	2,254
Aspen	--	--	--	--	--	--	--	--	--
Birch	4,953	--	--	211	1,703	887	1,132	1,020	--
Sweetgum	513	--	256	257	--	--	--	--	--
Tupelo	10,259	--	4,814	2,740	1,052	1,083	--	570	--
Black cherry	8,137	--	2,722	1,335	2,956	506	--	618	--
Black walnut	89,409	--	29,527	22,419	20,891	10,401	2,576	3,595	--
Butternut	493	--	493	--	--	--	--	--	--
Yellow-poplar	--	--	--	--	--	--	--	--	--
Persimmon	--	--	--	--	--	--	--	--	--
Sassafras	1,741	--	753	988	--	--	--	--	--
Other hardwoods	40,240	--	13,616	8,239	6,121	6,175	5,373	716	--
Total	2,300,016	--	519,526	563,350	458,465	297,375	183,386	230,619	47,295
All species	2,338,981	9,133	533,833	575,135	461,793	297,375	183,386	231,031	47,295

[1] International 1/4-inch rule.

Table 58.--Average net annual growth of growing stock and sawtimber on timberland by softwoods and hardwoods and Forest Survey Unit, Missouri, 1971 and 1972-1988[1]

Forest Survey Unit	Growing stock		Sawtimber	
	1971	1972-1988	1971	1972-1988
	In thousand cubic feet		*In thousand board feet*[2]	
Eastern Ozarks Unit				
Softwoods	10,642	12,857	55,206	68,677
Hardwoods	60,537	85,969	196,477	312,545
Total	71,179	98,826	251,683	381,222
Southwest Ozarks Unit				
Softwoods	4,152	8,871	13,593	26,512
Hardwoods	21,710	43,607	79,270	143,579
Total	25,862	52,478	92,863	170,091
Northwest Ozarks Unit				
Softwoods	483	3,202	505	7,468
Hardwoods	17,051	29,543	53,392	98,773
Total	17,534	32,745	53,897	106,241
Prairie Unit				
Softwoods	8	468	15	322
Hardwoods	6,266	38,538	28,559	146,608
Total	6,274	39,006	28,574	146,930
Riverborder Unit				
Softwoods	2,081	4,711	7,256	15,171
Hardwoods	33,592	39,556	147,128	180,704
Total	35,673	44,267	154,384	195,875
All Units				
Softwoods	17,366	30,109	76,575	118,150
Hardwoods	139,156	237,213	504,826	882,209
Total	156,522	267,322	581,401	1,000,359

[1] Corrected estimates of current annual growth in 1971 and average annual growth 1972-1988.

[2] International 1/4-inch rule.

Table 59.--Average net annual growth of growing stock on timberland by species group and ownership class, Missouri, 1972-1988

(In thousand cubic feet)

Species group	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Softwoods									
White pine	658	--	--	658	--	--	--	--	--
Shortleaf pine	19,618	8,387	584	948	--	1,347	3,302	625	4,425
Other yellow pines	55	15	--	--	--	--	--	--	40
Baldcypress	222	--	6	166	--	--	15	--	35
Eastern redcedar	9,544	330	316	335	--	--	4,206	640	3,717
Other softwoods	12	--	--	--	--	--	--	--	12
Total	30,109	8,732	906	2,107	--	1,347	7,523	1,265	8,229
Hardwoods									
Select white oak	66,249	10,027	671	1,950	76	1,939	20,266	3,922	27,398
Other white oak	20,473	1,311	224	320	6	308	8,118	1,049	9,137
Select red oak	9,066	735	143	412	70	90	2,945	759	3,912
Other red oak	79,691	10,594	859	2,800	82	2,726	24,812	4,878	32,940
Select hickory	11,042	117	150	259	72	159	4,981	803	4,501
Other hickory	11,553	630	120	124	11	133	4,973	612	4,950
Basswood	320	--	--	39	--	--	185	18	78
Beech	19	--	--	--	--	--	16	--	3
Hard maple	4,691	2	59	12	--	--	3,747	58	813
Soft maple	5,175	1	181	167	11	33	2,544	1,209	1,029
Elm	4,884	87	176	116	26	--	1,672	546	2,261
Ash	3,599	-338	-18	68	53	24	1,950	565	1,295
Sycamore	3,730	127	108	206	76	31	2,036	343	803
Cottonwood	1,913	--	180	114	304	--	483	311	521
Willow	624	--	50	-10	48	--	387	-88	237
Hackberry	5,360	4	120	331	97	10	2,738	413	1,647
Aspen	10	--	--	10	--	--	--	--	--
Birch	499	--	-16	14	--	1	325	73	102
Sweetgum	421	66	-7	20	5	47	190	9	91
Tupelo	523	117	--	17	--	30	84	9	266
Black cherry	615	50	16	-10	8	--	291	88	172
Black walnut	2,378	39	65	18	--	11	1,328	114	803
Butternut	5	--	1	--	--	--	-2	--	6
Yellow-poplar	134	--	--	--	5	--	67	6	56
Persimmon	812	--	1	5	--	--	371	4	431
Sassafras	265	--	--	19	--	--	101	28	117
Other hardwoods	3,162	36	107	165	-5	7	1,834	308	710
Total	237,213	23,605	3,190	7,166	945	5,549	86,442	16,037	94,279
All species	267,322	32,337	4,096	9,273	945	6,896	93,965	17,302	102,508

Table 60.--Average net annual growth of sawtimber on timberland by species group and ownership class, Missouri, 1972-1988

(In thousand board feet) [1]

Species group	All owners	Ownership class							
		National forest	Misc. federal	State	County & municipal	Forest industry	Farmer	Misc. private corporation	Misc. private individual
Softwoods									
White pine	3,005	--	--	3,005	--	--	--	--	--
Shortleaf pine	94,923	42,196	1,283	3,758	--	6,869	18,030	2,016	20,771
Other yellow pines	117	--	--	--	--	--	--	--	117
Baldcypress	1,157	--	35	844	--	--	88	--	190
Eastern redcedar	18,948	410	259	762	--	--	6,381	1,140	9,996
Other softwoods	--	--	--	--	--	--	--	--	--
Total	118,150	42,606	1,577	8,369	--	6,869	24,499	3,156	31,074
Hardwoods									
Select white oak	245,109	27,517	1,997	5,275	299	3,566	84,571	14,576	107,308
Other white oak	53,941	2,437	368	795	16	717	22,862	3,215	23,531
Select red oak	43,774	2,780	473	1,508	313	397	12,451	3,036	22,816
Other red oak	338,560	53,614	3,154	9,159	196	11,518	106,142	17,968	136,809
Select hickory	35,158	-6	1,010	1,430	78	407	11,996	4,196	16,047
Other hickory	33,587	2,188	1,306	301	42	1,506	13,831	2,428	11,985
Basswood	1,484	25	--	199	--	--	792	87	381
Beech	90	--	--	--	--	--	77	--	13
Hard maple	16,233	-56	241	35	--	--	14,536	161	1,316
Soft maple	17,636	--	1,586	580	42	112	7,405	3,927	3,984
Elm	4,962	160	-14	1,220	122	--	1,382	484	1,608
Ash	9,518	-1,500	-303	538	-78	116	5,674	2,061	3,010
Sycamore	19,296	483	397	1,039	309	144	9,980	2,210	4,734
Cottonwood	8,753	--	936	542	1,465	--	2,119	1,535	2,156
Willow	7,773	--	71	-59	281	--	5,556	-173	2,097
Hackberry	13,747	7	1,082	738	430	42	6,327	810	4,311
Aspen	--	--	--	--	--	--	--	--	--
Birch	1,673	--	-153	33	--	5	1,353	-19	454
Sweetgum	1,120	--	-34	89	30	197	182	--	656
Tupelo	1,043	332	--	133	--	112	334	8	124
Black cherry	1,855	--	36	-54	--	--	586	-57	1,344
Black walnut	14,420	-117	183	99	--	13	9,913	448	3,881
Butternut	68	--	3	--	--	--	-11	--	76
Yellow-poplar	540	--	--	--	25	--	311	--	204
Persimmon	136	--	--	--	--	--	--	--	136
Sassafras	153	--	--	--	--	--	58	--	95
Other hardwoods	11,580	--	193	435	25	--	8,009	822	2,096
Total	882,209	87,864	12,532	24,035	3,595	18,852	326,436	57,723	351,172
All species	1,000,359	130,470	14,109	32,404	3,595	25,721	350,935	60,879	382,246

[1] International 1/4-inch rule.

Table 61.--Average net annual growth of growing stock on timberland by species group and forest type, Missouri, 1972-1988

(In thousand cubic feet)

Species group	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Softwoods													
White pine	658	--	--	--	--	--	--	--	--	--	--	658	--
Shortleaf pine	19,618	8,248	--	--	5,534	894	2,851	1,997	--	4	--	90	--
Other yellow pines	55	--	--	--	15	--	--	--	--	--	--	40	--
Baldcypress	222	--	--	--	7	--	--	--	174	41	--	--	--
Eastern redcedar	9,544	147	2,773	3,721	3	848	1,058	593	3	43	--	355	--
Other softwoods	12	--	--	--	--	--	--	--	--	--	--	12	--
Total	30,109	8,395	2,773	3,721	5,559	1,742	3,909	2,590	177	88	--	1,155	--
Hardwoods													
Select white oak	66,249	590	29	598	1,607	5,337	20,864	35,365	108	429	--	1,316	6
Other white oak	20,473	463	61	774	424	12,633	5,077	766	88	13	--	174	--
Select red oak	9,066	54	17	100	50	645	5,613	2,244	-15	116	--	242	--
Other red oak	79,691	544	119	1,344	3,150	10,237	52,443	8,378	1,116	886	--	1,474	--
Select hickory	11,042	84	39	179	5	1,481	5,269	3,122	122	161	--	596	-16
Other hickory	11,553	59	6	83	158	2,393	5,620	2,711	144	111	--	268	--
Basswood	320	--	--	--	--	--	75	82	--	73	--	90	--
Beech	19	--	--	--	--	--	16	--	--	--	--	3	--
Hard maple	4,691	5	-17	-1	--	75	176	812	--	-8	--	3,649	--
Soft maple	5,175	--	--	--	1	--	58	147	53	3,638	163	1,115	--
Elm	4,884	120	36	1	11	588	1,387	1,024	15	401	-7	1,308	--
Ash	3,599	--	5	106	--	195	852	620	125	748	-1	949	--
Sycamore	3,730	--	27	27	10	76	412	653	13	1,812	80	620	--
Cottonwood	1,913	--	7	5	--	--	150	217	86	919	485	44	--
Willow	624	--	--	--	--	--	40	3	69	538	6	-32	--
Hackberry	5,360	--	--	58	--	69	657	1,010	34	2,224	20	1,288	--
Aspen	10	--	--	--	--	--	--	--	10	--	--	--	--
Birch	499	--	--	5	--	5	85	-17	23	246	--	152	--
Sweetgum	421	10	--	--	--	--	44	275	18	60	--	14	--
Tupelo	523	1	--	--	-16	46	400	106	-19	--	--	5	--
Black cherry	615	45	--	2	2	23	203	120	7	7	--	206	--
Black walnut	2,378	3	-141	8	14	349	664	309	31	229	6	906	--
Butternut	5	--	--	--	--	3	-1	2	3	-8	--	6	--
Yellow-poplar	134	--	--	--	--	--	57	27	--	--	--	50	--
Persimmon	812	--	3	186	--	25	537	38	2	17	--	4	--
Sassafras	265	19	--	6	28	32	69	83	--	--	--	28	--
Other hardwoods	3,162	--	11	59	36	81	1,793	420	27	361	-10	384	--
Total	237,213	1,997	202	3,540	5,480	34,293	102,560	58,517	2,060	12,973	742	14,859	-10
All species	267,322	10,392	2,975	7,261	11,039	36,035	106,469	61,107	2,237	13,061	742	16,014	-10

Table 62.--Average net annual growth of sawtimber on timberland by species group and forest type, Missouri, 1972-1988

(In thousand board feet) [1]

Species group	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Softwoods													
White pine	3,005	--	--	--	--	--	--	--	--	--	--	3,005	--
Shortleaf pine	94,923	34,010	--	--	27,842	4,685	17,197	10,873	--	21	--	295	--
Other yellow pines	117	--	--	--	--	--	--	--	--	--	--	117	--
Baldcypress	1,157	--	--	--	--	--	--	--	925	232	--	--	--
Eastern redcedar	18,948	233	4,666	7,456	--	3,540	1,242	1,198	--	51	--	562	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	118,150	34,243	4,666	7,456	27,842	8,225	18,439	12,071	925	304	--	3,979	--
Hardwoods													
Select white oak	245,109	1,476	11	2,264	3,736	18,835	68,813	140,134	458	1,492	--	7,831	59
Other white oak	53,941	86	35	2,389	738	35,971	11,445	2,502	482	55	--	238	--
Select red oak	43,774	117	-39	337	81	1,051	28,123	12,591	28	413	--	1,072	--
Other red oak	338,560	2,448	483	4,232	13,247	30,745	230,189	43,371	3,561	5,196	--	5,088	--
Select hickory	35,158	--	91	158	100	4,898	17,103	8,668	129	315	--	3,773	-77
Other hickory	33,587	9	--	76	790	6,252	18,560	6,079	266	588	--	967	--
Basswood	1,484	--	--	--	--	--	258	356	--	432	--	438	--
Beech	90	--	--	--	--	--	77	--	--	--	--	13	--
Hard maple	16,233	--	--	85	--	--	64	1,585	--	--	--	14,499	--
Soft maple	17,636	--	--	--	--	--	90	233	170	13,483	444	3,216	--
Elm	4,962	--	-13	--	--	-229	-474	1,988	35	1,269	-43	2,429	--
Ash	9,518	--	-70	305	--	582	1,697	1,844	608	1,724	--	2,828	--
Sycamore	19,296	--	28	-53	50	169	1,422	2,272	60	10,683	329	4,336	--
Cottonwood	8,753	--	34	22	--	--	551	1,066	133	4,319	2,527	101	--
Willow	7,773	--	--	--	--	--	947	--	457	6,267	79	23	--
Hackberry	13,747	--	--	8	--	158	1,180	1,704	120	7,763	--	2,814	--
Aspen	--	--	--	--	--	--	--	--	--	--	--	--	--
Birch	1,673	--	--	--	--	6	329	-93	125	809	--	497	--
Sweetgum	1,120	--	--	--	--	--	247	517	-34	289	--	101	--
Tupelo	1,043	--	--	--	41	104	400	272	133	--	--	93	--
Black cherry	1,855	--	--	--	--	91	1,090	255	18	40	--	361	--
Black walnut	14,420	--	-65	-16	8	298	5,650	3,525	--	406	15	4,599	--
Butternut	68	--	--	--	--	35	44	--	--	-11	--	--	--
Yellow-poplar	540	--	--	--	--	--	218	102	--	--	--	220	--
Persimmon	136	--	--	--	--	--	--	58	78	--	--	--	--
Sassafras	153	--	--	--	--	--	117	36	--	--	--	--	--
Other hardwoods	11,580	--	775	207	--	256	4,086	1,325	74	2,979	-5	1,883	--
Total	882,209	4,136	1,270	10,014	18,791	99,222	392,226	230,390	6,901	58,511	3,346	57,420	-18
All species	1,000,359	38,379	5,936	17,470	46,633	107,447	410,665	242,461	7,826	58,815	3,346	61,399	-18

[1] International 1/4-inch rule.

Table 63.--Average annual timber removals of growing stock and sawtimber on timberland by softwoods and hardwoods and Forest Survey Unit, Missouri, 1971 and 1972-1988[1]

Forest Survey Unit	Growing stock		Sawtimber	
	1971	1972-1988	1971	1972-1988
	In thousand cubic feet		*In thousand board feet*[2]	
Eastern Ozarks Unit				
Softwoods	2,098	3,638	9,162	14,671
Hardwoods	38,799	46,150	147,238	168,592
Total	40,897	49,788	156,400	183,263
Southwest Ozarks Unit				
Softwoods	5,101	3,353	10,000	10,711
Hardwoods	26,999	19,483	75,000	62,329
Total	32,100	22,836	85,000	73,040
Northwest Ozarks Unit				
Softwoods	244	30	1,224	122
Hardwoods	12,401	11,801	33,000	33,638
Total	12,645	11,831	34,224	33,760
Prairie Unit				
Softwoods	2	75	11	228
Hardwoods	46,502	10,842	150,989	39,418
Total	46,504	10,917	151,000	39,646
Riverborder Unit				
Softwoods	856	282	2,666	600
Hardwoods	34,700	20,896	112,726	78,390
Total	35,556	21,178	115,392	78,990
All Units				
Softwoods	8,301	7,378	23,063	26,332
Hardwoods	159,401	109,172	518,953	382,367
Total	167,702	116,550	542,016	408,699

[1] Corrected estimates of current annual removals in 1971 and average annual removals 1972-1988.

[2] International 1/4-inch rule.

Table 64.--Average annual mortality of growing stock and sawtimber on timberland by softwoods and hardwoods, Missouri, 1971 and 1972 -1988[1]

Forest Survey Unit	Growing stock		Sawtimber	
	1971	1972-1988	1971	1972-1988
	In thousand cubic feet		*In thousand board feet*[2]	
Softwoods	1,286	3,463	2,996	9,359
Hardwoods	31,364	70,191	73,380	180,499
All species	32,650	73,654	76,376	189,858

[1] Corrected estimates of current annual mortality in 1971 and average annual mortality 1972-1988.

[2] International 1/4-inch rule.

Table 65.--Average annual mortality of growing stock on timberland by species group and cause of death, Missouri, 1972-1988

(In thousand cubic feet)

Species group	All causes	Cause of death						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
Softwoods								
White pine	--	--	--	--	--	--	--	--
Shortleaf pine	2,607	181	131	3	16	277	637	1,363
Other yellow pines	7	--	--	4	--	--	--	4
Baldcypress	118	--	118	--	--	--	--	--
Eastern redcedar	731	--	48	5	48	33	61	535
Other softwoods	--	--	--	--	--	--	--	--
Total	3,463	181	297	12	64	310	698	1,902
Hardwoods								
Select white oak	5,742	100	928	131	12	230	713	3,627
Other white oak	5,900	115	981	100	2	160	756	3,787
Select red oak	2,824	40	578	8	30	720	95	1,353
Other red oak	28,799	1,698	4,646	343	47	2,050	1,071	18,943
Select hickory	3,194	61	364	13	7	125	172	2,452
Other hickory	3,571	19	813	31	30	194	290	2,193
Basswood	58	--	2	--	--	--	13	42
Beech	3	--	--	--	--	--	--	3
Hard maple	402	2	12	--	2	12	30	343
Soft maple	1,236	12	138	--	8	100	53	925
Elm	5,330	18	606	13	--	408	522	3,763
Ash	1,396	--	142	--	10	101	43	1,100
Sycamore	1,718	4	208	--	23	190	39	1,253
Cottonwood	2,754	12	172	254	12	448	26	1,830
Willow	2,473	--	93	--	19	1,064	10	1,288
Hackberry	738	2	59	--	--	93	82	502
Aspen	--	--	--	--	--	--	--	--
Birch	492	--	2	--	--	186	--	304
Sweetgum	176	--	2	--	--	21	--	152
Tupelo	278	4	53	6	--	42	8	163
Black cherry	215	--	21	--	--	15	11	168
Black walnut	1,309	1	92	28	--	104	76	1,007
Butternut	27	--	1	--	--	--	--	26
Yellow-poplar	21	--	5	--	3	--	--	13
Persimmon	205	--	21	--	6	18	24	135
Sassafras	103	--	9	4	--	8	--	82
Other hardwoods	1,227	22	141	--	--	116	42	907
Total	70,191	2,111	10,092	930	212	6,407	4,078	46,362
All species	73,654	2,292	10,388	942	276	6,717	4,776	48,264

Table 66.--Average annual mortality of sawtimber on timberland by species group and cause of death, Missouri, 1972-1988

(In thousand board feet) [1]

Species group	All causes	Cause of death						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
Softwoods								
White pine	--	--	--	--	--	--	--	--
Shortleaf pine	6,679	629	590	22	85	1,214	785	3,352
Other yellow pines	12	--	--	12	--	--	--	--
Baldcypress	569	--	569	--	--	--	--	--
Eastern redcedar	2,099	--	61	14	210	105	36	1,673
Other softwoods	--	--	--	--	--	--	--	--
Total	9,359	629	1,220	48	296	1,319	821	5,025
Hardwoods								
Select white oak	14,947	142	3,463	179	33	815	231	10,084
Other white oak	11,511	174	3,139	122	--	363	42	7,672
Select red oak	10,949	125	2,384	25	104	2,798	80	5,434
Other red oak	74,719	2,787	12,536	674	58	5,795	105	52,765
Select hickory	7,959	238	962	--	11	491	--	6,257
Other hickory	6,299	38	2,051	51	65	466	25	3,603
Basswood	141	--	10	--	--	--	--	131
Beech	5	--	--	--	--	--	--	5
Hard maple	558	--	27	--	--	27	--	504
Soft maple	3,799	53	505	--	30	414	28	2,769
Elm	10,030	50	1,475	--	--	780	369	7,355
Ash	2,792	--	437	--	13	244	15	2,083
Sycamore	6,089	20	860	--	21	629	14	4,546
Cottonwood	12,366	57	816	1,193	59	1,765	97	8,378
Willow	8,718	--	384	--	--	3,513	--	4,821
Hackberry	1,575	6	48	--	--	307	107	1,106
Aspen	--	--	--	--	--	--	--	--
Birch	1,342	--	13	--	--	579	--	751
Sweetgum	593	--	--	--	--	42	--	551
Tupelo	687	--	141	--	--	206	--	340
Black cherry	222	--	9	--	--	7	--	206
Black walnut	2,760	8	105	113	--	260	28	2,246
Butternut	64	--	5	--	--	--	--	59
Yellow-poplar	88	--	26	--	17	--	--	45
Persimmon	22	--	--	--	--	--	22	--
Sassafras	96	--	--	--	--	32	--	64
Other hardwoods	2,168	--	388	--	--	360	--	1,420
Total	180,499	3,696	29,782	2,357	411	19,893	1,162	123,197
All species	189,858	4,326	31,003	2,405	707	21,212	1,983	128,222

[1] International 1/4-inch rule.

Table 67.--Current annual timber removals of growing stock and sawtimber on timberland by species group and item, Missouri, 1987

GROWING STOCK

Species group	All removals	All products removals	Removals for products (Item)													Logging residue	Other removals
			Sawlogs	Veneer logs	Coop-erage	Handle bolts	Pulp-wood[1]	Piling	Poles	Fuelwood	Posts	Charcoal	Misc. products				
	Thousand cubic feet																
Softwoods																	
Shortleaf pine	9,553	6,785	6,300	--	--	--	--	--	62	27	394	--	2			808	1,960
Baldcypress	68	60	60	--	--	--	--	--	--	--	--	--	--			8	--
Eastern redcedar	1,955	1,684	955	--	--	--	--	--	--	46	82	--	601			177	94
Total	11,576	8,529	7,315	--	--	--	--	--	62	73	476	--	603			993	2,054
Hardwoods																	
White oak	35,912	22,023	16,720	563	1,555	9	88	42	--	2,642	91	313	--			4,611	9,278
Red oak	62,052	43,052	39,998	29	--	--	150	35	4	2,226	157	449	4			9,926	9,074
Hickory	6,474	3,078	2,163	14	--	61	62	6	--	677	12	74	9			920	2,476
Basswood	62	48	40	--	--	--	8	--	--	--	--	--	--			14	--
Beech	18	12	12	--	--	--	--	--	--	--	--	--	--			6	--
Hard maple	387	294	231	1	--	--	--	--	--	61	--	1	--			93	--
Soft maple	3,577	2,108	1,733	--	--	--	262	--	--	48	--	1	64			719	750
Elm	1,432	653	244	--	--	--	19	--	--	379	--	6	5			97	682
Ash	2,162	1,073	636	138	--	14	3	--	--	275	--	1	6			274	815
Sycamore	2,437	1,495	1,330	0	--	--	102	--	--	42	--	9	12			549	393
Cottonwood	5,111	3,342	2,828	112	--	--	263	--	--	74	--	--	65			522	1,247
Birch	305	41	37	--	--	--	--	--	--	--	--	--	4			12	252
Sweetgum	423	266	266	--	--	--	--	--	--	--	--	--	--			107	50
Tupelo	219	77	77	--	--	--	--	--	--	--	--	--	--			33	109
Black cherry	97	40	36	--	--	--	--	--	--	4	--	--	--			12	45
Black walnut	1,754	1,244	1,111	90	--	--	3	--	--	36	--	4	--			157	353
Yellow-poplar	340	241	241	--	--	--	--	--	--	--	--	--	--			99	--
Other hardwoods	1,581	920	164	--	--	--	514	--	--	212	8	--	22			93	568
Total	124,343	80,007	67,867	947	1,555	84	1,474	83	4	6,676	268	858	191			18,244	26,092
All species	135,919	88,536	75,182	947	1,555	84	1,474	83	66	6,749	744	858	794			19,237	28,146

SAWTIMBER

Species group	All removals	All products removals	Removals for products (Item)													Logging residue	Other removals
			Sawlogs	Veneer logs	Coop-erage	Handle bolts	Pulp-wood[1]	Piling	Poles	Fuelwood	Posts	Charcoal	Misc. products				
	Thousand board feet[2]																
Softwoods																	
Shortleaf pine	43,311	35,974	35,536	--	--	--	--	--	103	88	236	--	11			1,014	6,323
Baldcypress	355	346	346	--	--	--	--	--	--	--	--	--	--			9	--
Eastern redcedar	4,968	4,674	1,200	--	--	--	--	--	--	150	48	--	3,276			220	74
Total	48,634	40,994	37,082	--	--	--	--	--	103	238	284	--	3,287			1,243	6,397
Hardwoods																	
White oak	121,911	97,092	75,344	2,485	9,366	49	394	271	--	8,441	282	460	--			1,737	23,082
Red oak	219,028	189,507	105,261	124	--	--	656	230	--	7,078	467	665	21			2,386	27,135
Hickory	19,691	14,259	11,092	52	--	293	277	44	--	2,160	33	111	49			586	4,846
Basswood	260	253	219	--	--	--	34	--	--	--	--	--	--			7	--
Beech	68	66	66	--	--	--	--	--	--	--	--	--	--			2	--
Hard maple	1,475	1,426	1,209	3	--	--	--	--	--	210	--	4	--			49	--
Soft maple	14,453	10,672	9,009	--	--	--	1,145	--	--	164	--	5	349			409	3,372
Elm	4,062	2,615	1,254	--	--	--	84	--	--	1,245	--	7	25			48	1,399
Ash	7,189	4,934	3,321	610	--	74	15	--	--	877	--	5	32			164	2,091
Sycamore	9,735	7,647	6,981	--	--	--	452	--	--	135	--	14	65			286	1,802
Cottonwood	27,692	21,305	19,057	490	--	--	1,154	--	--	249	--	--	355			225	6,162
Birch	1,322	211	187	--	--	--	--	--	--	1	--	1	22			9	1,102
Sweetgum	1,449	1,394	1,394	--	--	--	--	--	--	--	--	--	--			55	--
Tupelo	610	407	407	--	--	--	--	--	--	--	--	--	--			14	189
Black cherry	223	217	204	--	--	--	--	--	--	12	--	1	--			6	--
Black walnut	7,155	6,115	5,520	452	--	--	18	--	--	117	--	8	--			247	793
Yellow-poplar	1,306	1,256	1,256	--	--	--	--	--	--	--	--	--	--			50	0
Other hardwoods	5,649	3,932	857	--	--	--	2,240	--	--	690	25	--	120			94	1,623
Total	443,278	363,308	242,638	4,216	9,366	416	6,469	545	--	21,379	807	1,281	1,038			6,374	73,596
All species	491,912	404,302	279,720	4,216	9,366	416	6,469	545	103	21,617	1,091	1,281	4,325			7,617	79,993

[1] Includes particle board and wafer bolts.

[2] International 1/4-inch rule.

Table 68.--Output of timber products by product, softwoods and hardwoods, and source of material, Missouri, 1987

Product and species group	Standard units	Total		Roundwood products				Plant byproducts	
				Growing stock		Nongrowing stock			
		Number of units	Thousand cubic feet	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet
Saw logs									
Softwoods	*Thousand board feet*[1]	42,176	7,755	39,783	7,315	42,176	440	--	--
Hardwoods		468,751	82,189	387,068	67,867	468,751	14,322	--	--
Total		510,927	89,944	426,851	75,182	510,927	14,762	--	--
Veneer logs									
Softwoods	*Thousand board feet*[1]	--	--	--	--	--	--	--	--
Hardwoods		4,728	1,043	4,293	947	4,728	96	--	--
Total		4,728	1,043	4,293	947	4,728	96	--	--
Cooperage									
Softwoods	*Thousand board feet*[1]	--	--	--	--	10,433	164	--	--
Hardwoods		10,433	1,719	9,438	1,555	--	--	--	--
Total		10,433	1,719	9,438	1,555	10,433	164	--	--
Handle bolts									
Softwoods	*Thousand board feet*[1]	--	--	--	--	--	--	--	--
Hardwoods		588	93	531	84	588	9	--	--
Total		588	93	531	84	588	9	--	--
Pulpwood[2]									
Softwoods	*Standard cords*[3]	--	--	--	--	--	--	4,468	353
Hardwoods		28,493	2,224	18,884	1,474	28,493	750	81,987	6,477
Total		28,493	2,224	18,884	1,474	28,493	750	86,456	6,830
Piling									
Softwoods		--	--	--	--	--	--	--	--
Hardwoods	*Pieces*	175	83	175	83	175	--	--	--
Total		175	83	175	83	175	--	--	--
Poles									
Softwoods		20,667	62	20,667	62	20,667	--	--	--
Hardwoods	*Pieces*	1,000	4	1,000	4	1,000	--	--	--
Total		21,667	66	21,667	66	21,667	--	--	--
Fuelwood									
Softwoods	*Standard cords*[3]	7,464	524	1,040	73	7,464	451	2,405	190
Hardwoods		916,673	64,057	95,535	6,676	916,673	57,381	92,975	7,345
Total		924,137	64,581	96,575	6,749	924,137	57,832	95,380	7,535
Posts									
Softwoods		911	700	619	476	911	224	--	--
Hardwoods	*Pieces*	1,071	582	493	268	1,071	314	--	--
Total		1,982	1,282	1,113	744	1,982	538	--	--
Charcoal									
Softwoods	*Standard cords*[3]	9	--	--	--	9	--	13,709	1,083
Hardwoods		39,141	2,706	12,411	858	39,141	1,848	141,633	11,189
Total		39,150	2,706	12,411	858	39,150	1,848	155,342	12,272
Miscellaneous									
Softwoods	*Thousand cubic feet*	603	603	603	603	603	--	631	631
Hardwoods		191	191	191	191	191	--	3,189	3,189
Total		794	794	794	794	794	--	3,820	3,820
All products									
Softwoods	*Thousand cubic feet*	71,830	9,644	62,712	8,529	82,263	1,279	21,213	2,257
Hardwoods		1,471,244	154,891	530,019	80,007	1,460,811	74,720	319,784	28,200
Total		1,543,074	164,535	592,731	88,536	1,543,074	75,999	340,997	30,457

[1] International 1/4-inch rule.
[2] Includes roundwood and plant byproducts for particle boad and waferboard.
[3] 128 cubic feet; includes wood, bark, and air space.

Table 69.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Missouri, 1987

(In thousand cubic feet)

Product and species	All sources	Growing stock			Rough and rotten trees	Salvable dead trees	Other sources
		Total	Sawtimber	Poletimber			
Industrial products							
Saw logs							
Softwoods	7,755	7,315	6,620	695	258	1	181
Hardwoods	82,189	67,867	66,248	1,619	10,035	1,314	2,973
Total	89,944	75,182	72,868	2,314	10,293	1,315	3,154
Veneer logs							
Softwoods	--	--	--	--	--	--	--
Hardwoods	1,043	947	947	--	87	--	9
Total	1,043	947	947	--	87	--	9
Cooperage							
Softwoods	--	--	--	--	--	--	--
Hardwoods	1,719	1,555	1,555	--	161	--	3
Total	1,719	1,555	1,555	--	161	--	3
Handle bolts							
Softwoods	--	--	--	--	--	--	--
Hardwoods	93	84	65	19	9	--	--
Total	93	84	65	19	9	--	--
Pulpwood[1]							
Softwoods	--	--	--	--	--	--	--
Hardwoods	2,224	1,474	1,394	80	359	6	385
Total	2,224	1,474	1,394	80	359	6	385
Piling							
Softwoods	--		--	--	--	--	--
Hardwoods	83	83	83	--	--	83	--
Total	83	83	83	--	--	83	--
Poles							
Softwoods	62	62	21	41	--	--	--
Hardwoods	4	4	--	4	--	--	--
Total	66	66	21	45	--	--	--
Fuelwood							
Softwoods	--	--	--	--	--	--	--
Hardwoods	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--
Posts							
Softwoods	700	476	142	334	1	39	184
Hardwoods	582	268	190	78	51	0	263
Total	1,282	744	332	412	52	39	447
Charcoal							
Softwoods	--	--	--	--	--	--	--
Hardwoods	2,706	858	315	543	1,526	5	317
Total	2,706	858	315	543	1,526	5	317
Miscellaneous							
Softwoods	603	603	547	56	--	--	--
Hardwoods	191	191	178	13	--	--	--
Total	794	794	725	69	--	--	--
All industrial products							
Softwoods	9,120	8,456	7,330	1,126	259	40	365
Hardwoods	90,834	73,331	70,975	2,356	12,228	1,408	3,950
Total	99,954	81,787	78,305	3,482	12,487	1,448	4,315
Fuelwood							
Softwoods	524	73	43	30	16	114	321
Hardwoods	64,057	6,676	3,943	2,733	1,399	22,207	33,775
Total	64,581	6,749	3,986	2,763	1,415	22,321	34,096
All products							
Softwoods	9,644	8,529	7,373	1,156	275	154	686
Hardwoods	154,891	80,007	74,918	5,089	13,627	23,615	37,725
Total	164,535	88,536	82,291	6,245	13,902	23,769	38,411

[1]Includes roundwood and plant byproducts for particle boad and waferboard.

Table 70.--Timber products from roundwood by species group and product, Missouri, 1987

Species group	All products	Saw logs		Veneer logs		Pulpwood[1]		Charcoal		Cooperage		Fuelwood		Other products
	Thousand cubic feet	*Thousand board feet[2]*	*Thousand cubic feet*	*Thousand board feet[2]*	*Thousand cubic feet*	*Thousand cords[3]*	*Thousand cubic feet*	*Thousand cords[3]*	*Thousand cubic feet*	*Thousand board feet[2]*	*Thousand cubic feet*	*Thousand cords[3]*	*Thousand cubic feet*	*Thousand cubic feet*
Softwoods														
Shortleaf pine	7,322	37,260	6,470	--	--	--	--	--	--	--	--	2,952	208	644
Baldcypress	73	361	61	--	--	--	--	--	--	--	--	169	12	--
Eastern redcedar	2,249	4,555	1,224	--	--	--	--	9	--	--	--	4,343	304	721
Total	9,644	42,176	7,755	--	--	--	--	9	--	--	--	7,464	524	1,365
Hardwoods														
White oak	47,418	111,386	19,821	2,485	563	1,736	133	14,068	983	10,433	1,719	343,337	24,018	181
Red oak	47,455	155,630	27,682	124	29	1,402	108	7,235	505	--	--	272,182	19,044	87
Black oak	20,935	110,891	19,731	--	--	1,494	116	13,133	915	--	--	--	--	173
Pecan	49	220	35	52	14	--	--	--	--	--	--	--	--	--
Hickory	9,760	16,691	2,734	--	--	1,217	93	3,419	230	--	--	94,494	6,605	98
Basswood	59	324	48	--	--	151	11	--	--	--	--	--	--	--
Beech	15	100	15	--	--	--	--	--	--	--	--	--	--	--
Hard maple	1,092	1,818	288	3	1	--	--	100	5	--	--	11,584	798	--
Soft maple	3,413	13,560	2,219	--	--	5,038	397	125	6	--	--	10,469	727	64
Elm	3,875	1,881	299	--	--	372	29	255	16	--	--	50,365	3,526	5
Ash	3,437	4,999	802	610	138	70	5	125	6	--	--	35,229	2,464	22
Sycamore	2,104	10,511	1,698	--	--	1,985	156	397	25	--	--	3,165	213	12
Cottonwood	3,969	21,984	3,104	490	112	5,081	395	--	--	--	--	4,345	293	65
Birch	123	281	44	--	--	--	--	25	1	--	--	1,169	74	4
Sweetgum	356	2,096	341	--	--	--	--	--	--	--	--	262	15	--
Tupelo	100	611	94	--	--	--	--	--	--	--	--	84	6	--
Black cherry	154	302	43	--	--	--	--	34	1	--	--	1,657	110	--
Black walnut	3,545	12,292	2,676	964	186	82	5	225	13	--	--	9,616	665	--
Yellow-poplar	314	1,890	310	--	--	--	--	--	--	--	--	56	4	--
Other hardwoods	3,470	1,284	205	--	--	9,865	776	--	--	--	--	35,141	2,457	32
Osage-orange	3,248	--	--	--	--	--	--	--	--	--	--	43,518	3,038	210
Total	154,891	468,751	82,189	4,728	1,043	28,493	2,224	39,141	2,706	10,433	1,719	916,673	64,057	953
All species	164,535	510,927	89,944	4,728	1,043	28,493	2,224	39,150	2,706	10,433	1,719	924,137	64,581	2,318

[1] Includes roundwood and plant byproducts for particle boad and waferboard.
[2] International 1/4-inch rule.
[3] 128 cubic feet; includes wood, bark, and air space.

Table 71.--Volume of primary plant residue by use and type of residue, Missouri, 1987

Species group	Wood residue						Bark	
	Total		Coarse[1]		Fine[2]			
	Softwoods	Hardwoods	Softwoods	Hardwoods	Softwoods	Hardwoods	Softwoods	Hardwoods
Fiber products[3]	353.10	6,476.90	292.60	5,983.30	60.50	493.60	21.70	203.40
Charcoal	1,083.00	11,188.90	1,037.60	10,100.20	45.40	1,088.70	640.70	5,932.70
Industrial fuel	154.40	4,228.40	9.30	1,442.40	145.10	2,786.00	15.30	1,037.80
Domestic fuel	36.40	3,117.40	23.40	3,033.40	13.00	84.00	11.00	1,754.80
Miscellaneous[4]	630.80	3,188.90	285.10	323.80	345.70	2,865.10	438.70	4,292.10
Not used[5]	981.90	11,056.20	393.90	3,576.70	588.00	7,479.50	318.80	2,666.00
Total	3,239.60	39,256.70	2,041.90	24,459.80	1,197.70	14,796.90	1,446.20	15,886.80

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.
[2] Not suitable for chipping such as sawdust, veneer clippings, etc.
[3] For manufacture of pulp, hardboard, or roofing felt.
[4] Livestock bedding, mulch, small dimension.
[5] Includes residue burned as waste.

Table 72.--All live tree biomass yields on timberland by species group and forest type, Missouri, 1989

(In pounds per acre)

Species group	Forest type											
	Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Softwoods												
White pine	--	--	--	--	--	--	--	--	--	--	912	--
Shortleaf pine	90,743	--	--	43,293	916	1,987	1,596	44	44	--	196	--
Other yellow pines	--	--	--	29	--	--	--	--	--	--	118	--
Baldcypress	--	--	--	43	--	--	--	7,485	636	--	--	--
Eastern redcedar	1,237	39,697	23,980	300	1,699	609	872	130	489	--	1,429	998
Other softwoods	--	--	--	--	1	--	--	--	--	--	44	--
Total	91,981	39,697	23,980	43,665	2,616	2,596	2,467	7,658	1,169	--	2,699	998
Hardwoods												
Select white oak	12,858	4,956	14,792	20,770	11,400	22,092	68,473	19,302	3,983	341	8,624	1,138
Other white oak	10,157	4,765	14,966	9,609	49,371	10,267	3,644	8,510	373	--	1,457	888
Select red oak	465	2,138	4,426	1,677	1,548	7,368	7,966	2,343	1,526	--	3,175	--
Other red oak	19,081	5,075	12,216	46,016	32,579	58,916	18,571	52,913	7,606	824	7,305	--
Select hickory	2,810	1,498	3,099	1,366	4,797	7,094	8,146	15,624	4,836	--	4,554	1,026
Other hickory	4,245	596	3,065	5,992	7,941	7,815	6,280	4,528	1,456	--	2,741	--
Basswood	52	--	30	--	9	88	188	--	729	--	1,151	--
Beech	--	--	--	--	--	19	14	--	--	--	67	--
Hard maple	222	1,776	2,165	326	114	710	3,126	--	504	--	6,796	--
Soft maple	195	--	71	655	40	386	672	6,089	22,424	29,380	6,521	--
Elm	906	2,841	3,842	492	1,545	2,611	2,996	5,706	12,365	5,011	14,627	--
Ash	219	1,572	3,627	97	1,402	1,160	2,942	7,892	8,403	1,685	7,742	--
Sycamore	--	549	760	261	237	532	1,244	1,096	17,354	5,419	4,006	--
Cottonwood	--	111	91	--	8	110	371	1,647	13,107	172,539	1,632	--
Willow	--	47	4	130	--	65	12	3,010	15,476	1,123	452	--
Hackberry	--	269	768	10	200	608	1,072	2,503	11,902	1,160	4,425	141
Aspen	--	--	--	--	--	--	--	293	--	--	--	--
Birch	--	--	78	--	30	111	40	2,827	4,381	--	686	--
Sweetgum	451	--	--	3	--	56	143	957	234	162	287	--
Tupelo	567	173	80	1,206	241	1,041	1,099	7,656	8	--	165	--
Black cherry	821	355	270	159	299	552	476	983	658	264	1,343	--
Black walnut	217	1,197	1,890	269	850	1,814	2,153	2,354	4,302	3,374	11,941	--
Butternut	--	--	--	--	5	23	24	180	153	--	56	--
Yellow-poplar	--	--	--	101	--	42	24	--	1	--	106	--
Persimmon	87	810	1,028	102	372	364	246	1,129	205	--	381	--
Sassafras	331	129	234	1,002	388	817	397	87	--	226	387	--
Other hardwoods	1,438	1,337	1,656	1,974	893	3,717	3,005	4,100	13,269	18,433	5,855	--
Noncommercial sp.	313	336	1,070	211	475	877	1,150	352	1,553	4,909	3,946	--
Total	55,436	30,526	70,226	92,427	114,746	129,254	134,473	152,081	146,809	244,850	100,430	3,194
All species	147,416	70,223	94,206	136,092	117,362	131,851	136,940	159,739	147,978	244,850	103,129	4,192

Table 73.--All live tree biomass on timberland by species group and forest type, Missouri, 1989

(In green tons)

Species group	All types	Forest type											
		Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech	Non-stocked
Softwoods													
White pine	454,265	--	--	--	--	--	--	--	--	--	--	454,265	--
Shortleaf pine	27,051,008	10,562,490	--	--	8,026,571	1,113,067	4,880,437	2,355,173	2,560	13,077	--	97,633	--
Other yellow pines	64,005	--	--	--	5,336	--	--	--	--	--	--	58,669	--
Baldcypress	637,112	--	--	--	7,968	--	--	--	438,979	190,165	--	--	--
Eastern redcedar	16,249,135	144,041	4,465,908	5,861,899	55,636	2,064,706	1,496,021	1,286,754	7,617	146,100	--	711,222	9,231
Other softwoods	23,417	--	--	--	--	1,676	--	--	--	--	--	21,741	--
Total	44,478,942	10,706,531	4,465,908	5,861,899	8,095,511	3,179,449	6,376,458	3,641,927	449,156	349,342	--	1,343,530	9,231
Hardwoods													
Select white oak	185,334,843	1,496,668	557,494	3,616,004	3,850,673	13,853,517	54,260,290	101,068,866	1,132,057	1,190,305	4,993	4,293,445	10,531
Other white oak	99,094,895	1,182,230	536,010	3,658,323	1,781,430	59,998,230	25,216,072	5,378,498	499,113	111,493	--	725,286	8,210
Select red oak	35,597,571	54,071	240,514	1,081,999	310,850	1,880,768	18,096,599	11,758,652	137,415	456,154	--	1,580,549	--
Other red oak	235,042,321	2,221,035	570,933	2,986,299	8,531,422	39,591,684	144,704,581	27,411,154	3,103,342	2,273,070	12,075	3,636,726	--
Select hickory	41,421,199	327,097	168,485	757,636	253,183	5,829,548	17,423,815	12,023,480	916,337	1,445,127	--	2,266,998	9,493
Other hickory	42,601,902	494,146	67,052	749,122	1,110,996	9,650,626	19,194,458	9,270,032	265,575	435,269	--	1,364,626	--
Basswood	1,310,472	6,003	--	7,373	--	11,542	216,880	277,740	--	217,787	--	573,147	--
Beech	99,951	--	--	--	--	--	46,266	20,318	--	--	--	33,367	--
Hard maple	10,845,266	25,824	199,842	529,334	60,427	138,664	1,743,176	4,613,889	--	150,528	--	3,383,582	--
Soft maple	12,886,182	22,746	*	17,312	121,453	49,064	947,655	992,520	357,137	6,701,404	430,415	3,246,476	--
Elm	25,553,978	105,491	319,564	939,096	91,252	1,877,901	6,412,168	4,422,808	334,673	3,695,332	73,408	7,282,285	--
Ash	16,855,708	25,531	176,798	886,610	18,051	1,704,154	2,848,538	4,342,555	462,882	2,511,384	24,692	3,854,513	--
Sycamore	11,050,434	--	61,723	185,840	48,438	287,636	1,306,698	1,835,883	64,278	5,186,335	79,390	1,994,213	--
Cottonwood	8,216,406	--	12,470	22,203	--	9,755	271,068	546,974	96,619	3,917,026	2,527,696	812,595	--
Willow	5,251,328	--	5,267	859	24,049	--	159,926	17,914	176,515	4,625,144	16,446	225,208	--
Hackberry	9,463,365	--	30,212	187,652	1,860	242,810	1,492,875	1,582,606	146,797	3,557,042	17,000	2,203,203	1,308
Aspen	17,407	--	--	--	--	--	247	--	17,160	--	--	--	--
Birch	2,202,976	--	--	18,952	--	36,312	272,036	58,917	165,780	1,309,291	--	341,688	--
Sweetgum	671,193	52,511	--	--	481	--	136,410	210,565	56,130	69,897	2,377	142,822	--
Tupelo	5,334,548	65,990	19,421	19,457	223,616	293,453	2,557,456	1,621,588	449,016	2,285	--	82,266	--
Black cherry	3,580,246	95,538	39,903	65,944	29,390	363,388	1,356,404	702,875	57,647	196,678	3,868	668,611	--
Black walnut	16,754,763	25,286	134,619	461,920	49,946	1,032,621	4,454,966	3,177,670	138,081	1,285,613	49,428	5,944,613	--
Butternut	182,129	--	--	--	--	6,358	56,362	35,132	10,563	45,629	--	28,085	--
Yellow-poplar	210,301	--	--	--	18,649	--	103,120	35,185	--	348	--	52,999	--
Persimmon	2,397,612	10,161	91,136	251,271	18,857	452,381	893,394	363,149	66,207	61,191	--	189,865	--
Sassafras	3,561,304	38,560	14,511	57,312	185,855	471,091	2,007,209	585,915	5,081	--	3,308	192,462	--
Noncommercial	23,129,160	167,382	150,445	404,843	365,935	1,085,333	9,128,593	4,435,770	240,481	3,965,515	270,041	2,914,822	--
Other hardwoods	7,326,617	36,470	37,775	261,464	39,170	577,803	2,154,704	1,697,816	20,649	464,091	71,910	1,964,765	--
Total	805,994,077	6,452,740	3,434,174	17,166,825	17,135,983	139,444,639	317,461,966	198,488,471	8,919,535	43,873,938	3,587,047	49,999,217	29,542
All species	850,473,019	17,159,271	7,900,082	23,028,724	25,231,494	142,624,088	323,838,424	202,130,398	9,368,691	44,223,280	3,587,047	51,342,747	38,773

Table 74.--All live tree biomass on timberland by species group and tree biomass component, Missouri, 1989

(In green tons)

Species group	All components	All live 1- 5-inch trees	Biomass component					
			Growing-stock trees			Nongrowing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Softwoods								
White pine	454,265	18,283	29,734	364,806	41,442	--	--	--
Shortleaf pine	27,051,008	2,449,911	1,483,325	19,829,978	2,325,821	63,900	801,085	96,988
Other yellow pines	64,005	4,050	3,576	45,391	5,498	319	4,644	527
Baldcypress	637,112	2,123	21,330	413,992	80,216	5,981	95,744	17,726
Eastern redcedar	16,249,135	6,761,571	642,972	5,147,071	1,610,935	169,799	1,488,693	428,094
Other softwoods	23,417	1,676	1,405	11,455	3,726	467	3,474	1,214
Total	44,478,942	9,237,614	2,182,342	25,812,693	4,067,638	240,466	2,393,640	544,549
Hardwoods								
Select white oak	185,334,843	13,852,735	7,458,729	76,383,715	23,968,821	4,168,987	46,101,029	13,400,827
Other white oak	99,094,895	11,567,289	3,520,256	30,475,499	10,443,996	3,091,353	30,629,028	9,367,474
Select red oak	35,597,571	1,283,742	1,105,195	13,951,685	4,092,477	845,101	11,256,470	3,062,901
Other red oak	235,042,321	17,610,857	8,334,795	92,149,528	29,112,980	5,370,725	63,717,867	18,745,569
Select hickory	41,421,199	6,649,601	1,572,548	16,677,096	5,646,598	680,120	7,708,536	2,486,700
Other hickory	42,601,902	10,700,389	1,381,421	14,331,948	4,933,595	736,247	7,875,825	2,642,477
Basswood	1,310,472	140,938	28,394	361,017	103,961	39,533	496,169	140,460
Beech	99,951	10,347	1,353	16,635	4,664	3,453	51,171	12,328
Hard maple	10,845,266	2,296,868	207,658	2,387,767	816,094	292,691	3,681,364	1,162,824
Soft maple	12,886,182	1,662,629	265,449	3,931,388	1,119,891	289,195	4,416,808	1,200,822
Elm	25,553,978	10,059,526	534,503	3,962,463	1,437,651	827,509	6,471,419	2,260,907
Ash	16,855,708	3,319,242	392,780	4,426,398	1,433,893	477,422	5,123,391	1,682,582
Sycamore	11,050,434	341,066	339,693	5,716,718	1,535,006	138,596	2,360,503	618,852
Cottonwood	8,216,406	47,943	324,791	4,745,172	1,102,148	105,087	1,555,828	335,437
Willow	5,251,328	164,881	179,764	2,233,757	620,405	132,272	1,492,146	428,103
Hackberry	9,463,365	1,559,186	317,670	2,788,101	905,934	299,230	2,734,102	859,142
Aspen	17,407	247	740	12,383	4,037	--	--	--
Birch	2,202,976	80,553	77,074	944,570	294,703	40,645	606,380	159,051
Sweetgum	671,193	71,676	29,987	356,742	107,346	7,014	74,521	23,907
Tupelo	5,334,548	1,599,423	120,404	1,235,115	401,304	119,369	1,437,597	421,336
Black cherry	3,580,246	1,216,451	54,021	525,225	174,760	116,064	1,116,943	376,782
Black walnut	16,754,763	1,240,244	439,186	4,664,428	1,496,590	588,822	6,325,512	1,999,981
Butternut	182,129	34,582	3,396	33,351	11,016	6,320	71,214	22,250
Yellow-poplar	210,301	16,849	7,012	118,634	31,537	2,147	25,510	8,612
Persimmon	2,397,612	1,700,622	26,441	183,184	75,180	36,369	269,760	106,056
Sassafras	3,561,304	2,603,945	20,781	155,439	61,220	57,899	484,621	177,399
Noncommercial sp.	23,129,160	9,969,257	225,406	2,299,043	749,941	656,895	7,011,908	2,216,710
Other hardwoods	7,326,617	4,056,493	--	--	--	256,247	2,223,607	790,270
Total	805,994,077	103,857,581	26,969,447	285,067,001	90,685,748	19,385,312	215,319,229	64,709,759
All species	850,473,019	113,095,195	29,151,789	310,879,694	94,753,386	19,625,778	217,712,869	65,254,308

Table 75.--All live tree biomass on timberland by species group and tree biomass component, Missouri, 1989

(In thousand cubic feet)

Species group	All components	All live 1- 5-inch trees	Biomass component					
			Growing-stock trees			Nongrowing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Softwoods								
White pine	20,105	818	1,315	16,139	1,833	--	--	--
Shortleaf pine	973,893	89,799	53,310	712,641	83,574	2,295	28,790	3,484
Other yellow pines	2,844	180	155	2,019	246	15	206	23
Baldcypress	22,445	75	754	14,586	2,821	210	3,374	625
Eastern redcedar	762,436	317,849	30,105	241,209	75,496	7,968	69,760	20,049
Other softwoods	1,068	76	64	523	170	21	159	55
Total	1,782,791	408,797	85,703	987,117	164,140	10,509	102,289	24,236
Hardwoods								
Select white oak	6,381,547	477,012	256,779	2,630,095	825,323	143,547	1,587,394	461,397
Other white oak	3,412,147	398,322	121,222	1,049,343	359,608	106,484	1,054,617	322,551
Select red oak	1,106,367	39,921	34,330	433,619	127,189	26,285	349,833	95,190
Other red oak	7,296,548	547,604	258,749	2,860,229	903,648	166,662	1,977,783	581,873
Select hickory	1,306,706	210,219	49,584	525,889	178,082	21,425	243,083	78,424
Other hickory	1,444,217	362,811	46,839	485,830	167,238	24,957	266,968	89,574
Basswood	62,176	6,761	1,340	17,108	4,929	1,864	23,514	6,660
Beech	3,386	351	45	564	158	119	1,732	417
Hard maple	345,537	73,236	6,618	76,060	25,995	9,309	117,269	37,050
Soft maple	465,790	60,029	9,577	142,138	40,502	10,460	159,673	43,411
Elm	944,112	381,225	19,390	143,970	52,231	30,080	235,088	82,128
Ash	661,670	133,063	15,338	172,808	55,975	18,631	200,128	65,727
Sycamore	382,044	11,820	11,750	197,631	53,060	4,789	81,603	21,391
Cottonwood	321,109	1,877	12,692	185,455	43,070	4,098	60,805	13,112
Willow	219,793	6,941	7,515	93,482	25,965	5,523	62,450	17,917
Hackberry	363,077	59,824	12,191	106,969	34,753	11,482	104,896	32,962
Aspen	661	10	28	470	153	--	--	--
Birch	80,774	2,957	2,825	34,636	10,806	1,490	22,231	5,829
Sweetgum	22,321	2,384	996	11,862	3,573	235	2,478	793
Tupelo	183,957	55,160	4,149	42,592	13,838	4,121	49,572	14,525
Black cherry	145,506	49,384	2,201	21,358	7,103	4,727	45,416	15,317
Black walnut	627,422	48,628	16,370	174,017	55,835	21,981	235,982	74,609
Butternut	8,135	1,547	152	1,488	492	280	3,181	995
Yellow-poplar	8,066	646	266	4,553	1,210	82	979	330
Persimmon	103,951	73,738	1,148	7,941	3,256	1,569	11,698	4,601
Sassafras	154,411	112,899	902	6,738	2,656	2,519	21,008	7,689
Noncommercial sp.	1,002,766	432,191	9,776	99,669	32,525	28,518	303,993	96,094
Other hardwoods	293,035	162,236	--	--	--	10,243	88,949	31,607
Total	27,347,231	3,712,796	902,772	9,526,514	3,029,173	661,480	7,312,323	2,202,173
All species	29,130,022	4,121,593	988,475	10,513,631	3,193,313	671,989	7,414,612	2,226,409

Table 76.--All live shrub and tree seedling biomass yields on timberland by species group and forest type, Missouri, 1989

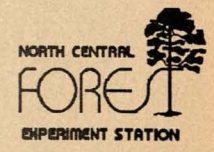
(In pounds per acre)

Species group	Forest type										
	Short-leaf pine	Eastern redcedar	Eastern redcedar-hardwood	Shortleaf pine - oak	Post-blackjack oak	Black-scarlet oak	White oak	Oak-gum-cypress	Elm-ash-soft maple	Cotton-wood	Maple-beech
Tree seedlings											
Shortleaf pine	2	--	--	4	7	6	--	--	--	--	--
Eastern redcedar	21	417	185	--	55	18	34	6	--	--	62
Select white oak	42	15	80	17	38	114	107	--	1	--	81
Other white oak	53	5	42	153	329	39	1	--	--	--	1
Select red oak	1	3	48	--	11	14	5	1	--	--	--
Other red oak	326	7	347	86	275	151	22	1	1	--	20
Select hickory	8	--	2	163	98	76	53	36	--	--	7
Other hickory	198	1	9	134	189	124	65	2	1	--	30
Basswood	--	--	--	--	--	2	28	--	--	--	4
Beech	40	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	18	16	28	19	54	--	--	--	55
Soft maple	3	--	6	86	3	46	62	13	528	--	2
Elm	161	52	119	--	106	140	188	393	853	--	543
Black ash	--	--	--	--	--	1	5	--	2	--	2
White & green ash	18	246	378	58	38	27	91	77	632	--	138
Sycamore	--	--	--	--	--	--	--	--	5	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	30	--
Willow	--	--	--	--	--	--	--	--	5	--	--
Hackberry	--	291	48	--	23	11	23	34	119	14	74
River birch	--	--	--	--	--	--	--	2	1	--	--
Sweetgum	--	--	--	--	--	1	--	--	--	--	--
Tupelo	3	6	1	129	1	85	77	--	--	--	7
Black cherry	6	1	14	5	41	18	25	31	3	--	26
Black walnut	--	22	--	--	1	3	1	1	--	--	59
Other hardwoods	59	40	74	277	106	332	260	2	279	--	68
American hornbeam	--	--	--	--	0	1	12	--	--	--	--
Eastern redbud	--	2	29	2	18	16	27	50	8	--	62
Osage orange	--	--	--	--	2	2	2	--	--	--	8
Apple	--	--	2	--	--	--	--	--	--	--	--
Eastern hophornbeam	--	--	13	--	1	25	77	--	3	--	32
Chokecherry	--	--	--	--	--	--	--	17	21	--	--
Wild plum	--	--	--	--	3	10	2	--	--	--	--
Dogwood	--	3	95	--	2	13	28	--	200	--	246
Pawpaw	--	--	22	--	--	3	13	--	113	--	1
Total tree seedlings	941	1,111	1,532	1,130	1,375	1,297	1,262	666	2,775	44	1,528
Tall shrubs											
Witch hazel	--	--	--	--	4	6	27	77	--	--	--
Common ninebark	--	--	--	5	--	--	--	--	1	--	--
Juneberry	--	257	14	--	7	16	23	--	--	--	2
Hazel	--	--	11	--	21	19	13	107	63	--	--
Prickly ash	--	--	--	--	--	1	3	--	--	--	--
Alder buckthorn	23	3	19	--	30	68	27	--	82	--	26
Viburnum	15	25	2	--	15	27	30	--	1	--	147
Elder	--	--	1	--	--	--	--	10	--	--	7
Sumac	29	32	240	9	168	127	42	--	204	--	205
Misc. tall shrubs	--	2	66	--	7	19	14	--	77	--	99
Total tall shrubs	67	319	353	14	252	283	179	194	428	--	486
Low shrubs											
Virginia creeper	17	16	55	22	52	59	62	133	43	44	66
Spirea	--	--	--	--	--	1	--	--	--	--	--
Gooseberry-current	--	2	4	--	4	7	5	21	13	33	23
Raspberry-blackberry	6	3	5	12	17	20	11	36	2	--	27
Rose	2	2	4	2	8	5	5	52	9	--	3
Bilberry-blueberry	6	2	18	103	12	20	7	1	1	--	1
Honeysuckle	3	3	11	1	6	5	7	--	--	--	1
Snowberry	0	2	6	--	5	5	5	11	10	2	17
Poison ivy	25	3	34	5	9	23	29	137	43	62	54
Greenbriar	23	--	9	11	9	11	13	20	10	12	17
Grape	6	6	20	11	13	18	17	12	12	13	13
Misc. low shrubs	1	10	13	5	3	3	5	1	29	--	12
Total low shrubs	89	49	179	172	138	177	166	424	172	166	234
All shrub species	1,097	1,479	2,064	1,316	1,765	1,757	1,607	1,284	3,375	210	2,248
Number of plots[1]	30	32	53	34	298	700	405	11	63	4	141

[1] Number of plots by forest type from which average yields were derived.

Hahn, Jerold T.; Spencer, John S., Jr.
1991. **Timber resource of Missouri, statistical report, 1989.** Resour. Bull. NC-119. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 123 p.

The fourth Missouri forest inventory found 14.0 million acres of forest land in 1989, of which 13.4 million acres (96 percent) is timberland. This bulletin presents highlights and statistics on area, volume, growth, removals, mortality.

KEY WORDS: Area, volume, growth, removals, mortality.

Our job at the North Central Forest Experiment Station is discovering and creating new knowledge and technology in the field of natural resources and conveying this information to the people who can use it. As a new generation of forests emerges in our region, managers are confronted with two unique challenges: (1) Dealing with the great diversity in composition, quality, and ownership of the forests, and (2) Reconciling the conflicting demands of the people who use them. Helping the forest manager meet these challenges while protecting the environment is what research at North Central is all about.